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Personal

Mr. J. B. Mills, President of the Australian Apple and Pear Export Council left for England on the R.M.S. "Orama" on March 30. While in London he will give attention to matters affecting Apple and Pear export from Australia, including a conference with the Empire Apple and Pear Council, attending to matters of policy with Australian Federal Ministers in London re preferences under the Ottawa Agreement, shipping freights and improved services. Mr. Mills will be back in time to preside at the Annual Conference of the Council, to be held towards the end of this year.

Mr. T. Rigg, Director of the Cawthron Research Institute, Nelson, N.Z., is on a visit to Australia. While in Victoria he spent some days in inspecting orchards and cool stores, in company with the Chief Inspector of Horticulture (Mr. F. M. Read), and in visiting the N.E. portion of the State among the tobacco growing areas, accompanied by the Government Tobacco Expert, Mr. W. McDonald.

EDITORIAL

The Month in Review

WHILST PRODUCERS of dried fruit and butter are grievously disappointed at the negative result of the referendum poll, the situation was summed up by the Federal Attorney-General (Mr. Menzies) when he said "The umpire had given his decision": consequently leaders of the industry are at work to maintain the position that they have achieved in the years during which control measures have been compulsory. Growers will do well to take to heart the advice which is tendered in the efforts to achieve State and interstate unity, as these endeavors are planned on a national scale, backed by wide experience, and wholly designed to benefit the producer and the community generally.

:: :: ::

IN THE CANNED FRUIT industry a very substantial pack is being processed. The absorption capacity of the Australian market can now be accurately gauged, hence the vigorous efforts to maintain and develop export markets.

Considerable pressure is being brought to bear on Federal authorities with regard to increased preference in Britain under agreement which will be made to take the place of the expiring Ottawa agreements. Federal Ministers have been fully informed on this subject, which is sure to be discussed with the British Government at the Imperial Conference which is being held shortly in London. A flat preference rate is desired to take the place of the present ineffective ad valorem preference. The reasonableness of the proposal is so selfevident that success is confiidently hoped for.

:: :: ::

THE APPLE INDUSTRY is facing a crisis. All the States are loyally abiding by the decision of the Australian Apple and Pear Export Council with regard to the quota for U.K.

The major problem, however, remains unsolved—the effective distribution of the quantity retained in Australia. With particular regard to the Eastern States, the position is that there is a very heavy crop in Tasmania, the fruit being clean and free from disease; Victoria has the heaviest crop since the bumper crop of 1928; N.S.W., despite unseasonable conditions in some areas, has a substantial crop of Apples, and the fact stands out very plainly that there are more Apples offering than can be normally marketed at a profit. Glutted markets in Sydney, Melbourne and Brisbane, are no good to producer, distributor or consumer. Publicity has been given to the fact that any State can ship to another State fruit which conforms to the grading regulations within the State in which the fruit is desired to be marketed.

Commercially, of course, it will be uneconomic to pay freight on the lower grades of Apples, but it is difficult to bring home to individual growers—many of whom do not see the national aspects—the effects of such action.

The line of action is abundantly clear. A very small levy per case would provide sufficient funds for an Apple publicity campaign which would definitely lift the consumption of this healthful fruit-food. The result would be cumulative over the years. A publicity campaign would stabilise the industry. Already Nutrition Committees in Australia as well as in other parts of the world, have pointed out that the great mass of the people do not eat sufficient fruit. Who is to tell the story to the public—and to keep on telling the story until it is adequately realised? The producer must do it. No one else will.

The Federal Government has been asked, under the power which it unquestionably possesses, to provide the means of this uniform contribution by producers. Growers ask for this opportunity for self-help. In fulfilling this request the Government would provide the means for stabilising an important primary industry, and at the same time assist in building up a healthy nation.

The time for action is now, and the need was never more urgent.

Answers to Correspondents

Grape Packing.

In answer to an enquiry as to the method of packing Grapes for export, the Superintendent of Horticulture in W.A. (Mr. G. W. Wickens) writes as follows:—

In packing Grapes for export, the case used in W.A. is the one mentioned in the "Commerce (General Exports) Regulations," and is 24 5/16 in. length, 6¼ in. depth, and 12⅛ in. width, inside measurements clear of division. The case has a centre-piece, but the measurements are inside measurements clear of division. The boards are placed closely together, and the Grapes are packed in corrugated cork.

When completed the case contains about 28 lbs. of Grapes, and 4 lbs. of corrugated cork. The case should always be packed on the flat, for it has been found that when packed as an upright case there is considerable difficulty in getting sufficient cork between the berries and the sides of the case.

INTERSTATE FRUIT CONFERENCE.

Melbourne, April 13.

Grading Regulations to be Considered.

IN VIEW of the large crops of Apples retained in Australia for marketing in the Eastern States and following an urgent request for immediate consideration of the problem in the light of the existing grading regulations (particularly in N.S.W.), the Australian Apple and Pear Export Council has convened an Interstate Conference to meet on Tuesday, April 13, at 2.30, in the Board Room, Commercial Travellers' Association, Melbourne.

An endeavour will be made to see to what extent the regulations can be applied to the marketing of the top grades only, as a glut of the lower grades would be disastrous.

GRAPEFRUIT FROM PALESTINE

For the first time in history, Australia has imported Grapefruit from Palestine. It is a remarkable experience that Palestine, so old, yet so long neglected as far as primary production is concerned, should stage such a development as has been seen in the citrus industry within the last decade. That Australians should be eating Grapefruit from the Holy Land is even more remarkable.

The switch-over was occasioned by the recent shipping strike in California, during which the moderate supplies of this fruit, usually received in Australia during the off-season, were not available, and Messrs. Silk Bros. conceived the idea of bringing in Grapefruit from Palestine to meet this special trade. The first shipment of 240 cases were landed in Melbourne on March 11, and the fruit was reported as being heavy in weight, fine in skin and of splendid eating quality. The demand for the new variety was keen. Sixty cases were also landed in Sydney and eagerly taken up.

This was a special occasion, and it is not anticipated that Palestine fruit will compete with Australian in season. Palestine's Grapefruit season extends from November to April.

Letters to the Edito

Parasite for Codlin Moth.

(The Editor of "The Fruit World."

Sir,—Victorian orchardists may be interested to know that a Codlin Moth parasite of the Ichneumon Fly family appears to be working freely in their orchards.

After careful observance lasting over a period of two fruit seasons, I have noticed this parasite hunting for the larva of the Codlin Moth under the bark, in crevices, and old flight holes, in props used for staking heavily laden Apple branches.

The fly has no attractive coloring, thus making its appearance very hard to locate; the head, thorax, abdomen and legs are black, and the thread-like appendages used for protecting the delicate egg tube, are of greyish-black tipped with white markings. The length of the insect is ¾ of an inch, and the ovipositor 1¼ inches.

An observant orchardist may understand the parasitic nature of the Ichneumon Fly, of which there are a great number of species.

Her action is very interes[ting] watch. Flying with great spe[ed] occasionally hovering, she work[s] inch of the props, sensing the [host] larva. When finding her pre[y]

1.—Ichneumon Fly in flight. (Natural size.)
2.—Fly depositing egg in larva of Codlin Moth.

elevates the ovipositor in an extraordinary fashion, making a loop over her back, bringing the tip down to the wood under which the grub are pupating, and with great skill begins to drill a hole. After the female completes the boring, she converts her drill into an egg tube, and through it pumps an egg into the unfortunate grub.

The larva of the Ichneumon hatches out in a few days, eating its host alive.—Yours, etc.,

K. W. SCOTT.

Croydon, March 17, 1937.

NEWS IN BRIEF.

Tasmanian growers are taking an increased interest in the "crown" packing of Apples, referred to in the reports of Mr. P. H. Thomas, after his recent visit to U.S.A. In fact the Department has found it difficult to supply sufficient instructors to demonstrate this system.

There was a disastrous fire in the Orchardists Cool Store at Doncaster when the plant and half the buildings were destroyed, together with over 40,000 cases of fruit.

Over 80 per cent. of the vinegar used in Western U.S.A. is made from Apples; the pomace left over is converted into stock food.

The hailstorm at Bridgetown, W.A., in March was the worst in the history of the settlement. Not only were the crops destroyed, but the trees were damaged also. One estimate placed the loss at 150,000 cases.

The production of Pears without blossom in Russia is of great botanical interest.

A recent check on American tastes always revealed that Apple pie was the favorite dessert.

A party of British scientists is now in Australia to investigate new methods for the transport of fruit in ships' holds. Under certain air circulation systems, the solid stacking of the fruit, without dunnage between the cases, is recommended.

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New Lead Arsenate Combinations

Tests with Lead Arsenate and Different Types of Oil — Oil Combinations Should Not be Used in First Cover Sprays — "W.S.C. Dynamite" for Reducing Grub Infestation to Vanishing Point and Residue Problem, but it Must be Used Early in the Season Only — Necessity for Control of First Brood Codlin.

By James Marshall and Kermit Groves, Divisions of Entomology and Chemistry, Washington Experiment Station Wenatchee and Pullman, U.S.A.

[Readers of the "Fruit World and Market Grower" have been kept in touch through these pages with the developments in U.S.A. research work in Codlin Moth control. Some excellent work is being done at research stations on the U.S.A. Pacific Coast.

The series of articles is continued in this issue, the writers being Messrs. James Marshall and Kermit Groves, entomologists, Washington Experiment Station, the information being republished from "Better Fruit." Readers will follow with interest the experiments with various kinds of oils, and the development of the combination which to date has given best results.

Readers should allow for six months difference where spraying times are referred to. For instance, June and July in U.S.A. would be January and February in the Southern Hemisphere.

We extend greeting to our American friends, wishing them every success in their fight for the control of this major pest.—Ed. "F.W." & M.G."]

IN 1932 A NEW TYPE of Codlin Moth spray mixture appeared in North Central Washington. Since that time it has undergone rapid development and extensive application, particularly in the Wenatchee district.

Though the operator or grower who uses it is unaware of the role of its various constituents, he recognises that whereas a few years ago his ideal mixture contained lead arsenate as a uniform slowly setting suspension, it is now flocculated and settles rapidly. In fact "flocculation" has become so much a household word that many a man believes good flocculation is synonymous with good deposit. This is not the case. Flocculation per se is not responsible for improvement of either the quality or quantity of an arsenical deposit.

At the present time, the most

Effective Arsenical Spray

deposits have three characteristics in common.

First, they are uniformly distributed or "filmed" on the fruit surface.

Second, they have the capacity of increasing steadily in quantity as spraying is prolonged on one point.

Third, they are oily. It is quite incidental that these mixtures flocculate in the spray tank.

Some mixtures, though flocculated and bearing oil, do not produce a film deposit and show no capacity for steady increase of "build-up"; example, lead arsenate with paste emulsion of mineral oil.

Some flocculated mixtures produce a film deposit which is non-oily and does not build up with heavy spraying; example, lead arsenate with soap.

Others produce both a film deposit and heavy "build-up" but the deposit is not oily, lead arsenate-soap with ½ per cent. kerosene.

Still others showing a lesser degree of flocculation give film deposits which, though oily, do not build up; example, lead arsenate with herring oiloleic acid. In brief, flocculation is an effect not a cause, yet the fact that it is a feature of the best arsenical mixtures suggests its connection with ome characteristic of importance. That characteristic may be termed mixture inversion, of which more will be said later.

The accompanying graph indicates the approximate relative effectiveness of various types of lead arsenate spray mixtures currently used in the Wenatchee Valley. With the exception of the colloidal spreader combination which is judged from the records of the late Anthony Spuler, the ratings are based on experiments conducted since 1932 at the Washington Experiment Station in Wenatchee.

As a basis of comparison, the poorest spray material, lead arsenate used alone, is represented as allowing 50 per cent. wormy fruit after having been applied in six cover sprays.

This result is to be expected from straight lead arsenate in the lower Wenatchee Valley, yet it is granted that in very lightly infested districts, or in some cases in individual orchards straight lead arsenate will produce practically 100 per cent. clean fruit. But this had no bearing on the rankings of the remaining mixtures, which are in varying degrees but in every case definitely superior to it.

Two infestations have been calculated for each spray mixture; the first represents that resulting from a moderate dosage, about 40 to 45 gallons per application for a tree capable of bearing 30 boxes of fruit; the second, from a heavy dosage of about 75 to 80 gallons.

The infestations from moderate and heavy applications show that there is comparatively little to be gained from excessive dosages of any of the first four mixtures providing a tree has been thoroughly wetted.

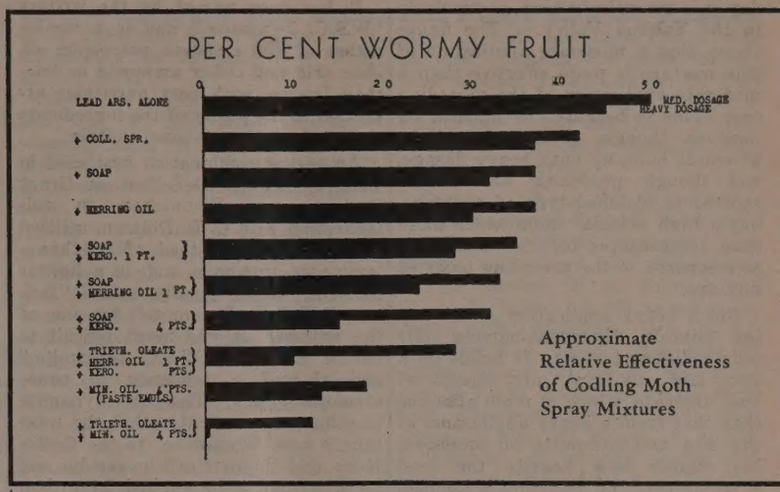
Any improvement is largely attributable to the fact that a heavy application will generally offer less likelihood of upsprayed fruit surface than a moderate application. The arsenical deposit from the heavy spraying will be no greater; it may be even less, as a result of removal of previous deposit. These four mixtures, the deposits of which are characterised by total, or practically total lack of the capacity to build-up are; lead arsenate alone, with colloidal spreader, with soap, and herring oil.

Colloidal or Protein Spreader,

if of the proper type and if used in the correct amount, improves control because it improves the quality of the deposit of lead arsenate. It does not increase the quantity. The deposit ranges from blotch to film type, whereas lead arsenate used alone results in a spotted deposit which does not give effective protection.

Soap flocculated the arsenical, protein spreader does not, but the type of coverage is rather similar in both cases. Soap properly used is an improvement on protein spreader, but the improvement does not result from increased deposit. It may relate to physical factors such as availability of deposit to the insect larva, or to chemical factors such as solubility of the arsenical in the ingest gut.

A heavy application of lead arsenate-herring oil mixture shows somewhat increased improvement over a moderate application when compared to the previous three mixtures. This is due to a slight increase in deposit and more particularly to an improvement in the type of coverage, for heavy dosages of this mixture give noticeably less spotted coverage than light or moderate dosages.



Approximate Relative Effectiveness of Codling Moth Spray Mixtures

The fifth mixture represents, though weakly, the appearance of that very important and previously mentioned factor, the inverted mixture. For the purpose of this article, an inverted Codlin Mtoh spray mixture is one in which a finely divided solid suspension such as lead arsenate, is transferred completely from the water phase to the oil phase of an emulsion to the accompaniment of breaking or inversion of that emulsion. This requires the presence of four substances, water, oil, lead arsenate and an agent which effects the inversion. It may be one of a number of compounds.

To return to the fifth mixture of the chart; it combines water, kerosene (an oil), lead arsenate and soap. Soap is the substance which after undergoing chemical change to at least a slight extent (apparently) brings about inversion. How this may occur does not concern us here.

The point that interests the grower is that heavy applications of this mixture show somewhat higher deposits than moderate applications, and corresponding improvement in Codlin Moth control.

Next in line and an advance over the fifth mixture, is one in which herring oil (one pint) replaces kerosene (one pint). Inversion also occurs here to a slight extent, and as a result the deposit exhibits, rather weakly, it is true, the capacity of building up on the fruit surface. Again a heavy application shows to greater advantage than for the first four mixtures. It is an improvement over the kerosene mixture because in addition to giving as smooth and as heavy, or in some cases a heavier deposit, the deposit is oily, whereas that from the kerosene combination is dry and easily rubbed off.

The seventh spray mixture is similar to the fifth except that

The Kerosene is Increased.

from one pint to four pints. If the correct ratio of soap to kerosene is maintained, this mixture is decidedly more effective than the fifth, though the improvement only becomes evident with heavy application. Again, inversion is responsible, but now it is a decidedly more potent factor, for a mixture containing four pints of oil or kerosene gives a much heavier deposit than a mixture with one pint if both are heavily applied.

While on this subject, it should be mentioned that the satisfactory behavior of an inverted mixture depends to a large degree on the quantity of oil present. Four pints of oil or kerosene per 100 gallons of water (½ per cent.) represents an optimum for three pounds of lead arsenate. Considerably less will not wet or "carry" the arsenical properly. Considerably more wets it excessively, producing an unduly oily film in which the oil-wetted arsenical particles present on the fruit surface tend to be flushed off by the impact of succeeding droplets of oil.

The Next Improvement

comes with the addition of one pint herring oil to three pints kerosene to give ½ per cent. total oil. When used with ammonium oleate or triethanolamine oleate, this mixture behaves in the tank and on the fruit similarly to the seventh mixture, but the deposit has the added advantage of being oily and giving still heavier deposits, so Codlin Moth control is better. Herring oil-kerosene mixture is used because kerosene alone produces a non-oily deposit, while four pints of herring oil, the amount necessary for satisfactory inversion, would be toxic to Apple foliage.

The shortcomings of both are overcome by combination.

This spray mixture, dubbed by the authors, "Modified W.S.C. Dynamite," contains no constituent that complicates residue removal, though, of course, the fact that it gives high deposits of lead arsenate is sufficient reason for using good judgment in its application. It has not been made up with sodium or potassium oleates or stearates, tar soaps, fish oil soaps or the like. These more caustic substances, if contemplated for this combination, should be used cautiously, particularly because of possible arsenical injury to foliage or fruit.

Effectiveness in the Mixtures

so far mentioned has depended almost entirely on the arsenical load. The ninth mixture in the list introduces another factor, ovicidal or egg-killing effect, in addition to the larvicidal or worm-killing effect of lead arsenate. This combination, lead arsenate with mineral oil (½ per cent to ¼ per cent.) as a mayonnaise or paste emulsion, has been the combined ovicide-larvicide of standard practice in the northwest for the past 10 years. Even to-

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day it is extensively used, particularly in the Yakima Valley. The figure shows that a moderate application of this mixture is more effective than a moderate application of the preceding one. This is because the mineral oil mixture, though giving but slight arsenical build-up with heavy dosage, and though producing an inferior spotted to blotched type of coverage, has a high ovicidal value which more than compensates for its weaknesses as compared to the preceding inverted mixture.

But a heavy application of the latter mixture (kerosene-herring oil) tells a different story. It builds up a very high, uniform, oily deposit of lead arsenate, which is more effective than that from a heavy application of the lead arsenate-paste oil emulsion. No matter how heavily the lead arsenate-paste oil emulsion is applied, at best it forms a blotched deposit which cannot exceed a comparatively low maximum arsenic content, so little is gained from a heavy dosage as compared to a moderate one.

The Final Spray Mixture

is one about which there is considerable speculation at the present time.

It has been named by the writers "W.S.C. Dynamite," and is a combination of lead arsenate, petroleum oil, oleic acid and either ammonia or triethanolamine, with very particular attention to the purity of the ingredients and their ratios to one another.

An earlier combination first used in 1932 by F. E. DeSellem at Grant Orchards, near Wenatchee, in collaboration with C. D. Dolman, utilised sodium silicate instead of triethanolamine or ammonia, and, in a lighter moment, was originally named "Dolman-DeSellem Dynamite" by one of the writers. It was more difficult to handle than the "W.S.C. Dynamite," and showed a tendency to cause arsenical injury. The term dynamite in either case indicates that the mixture is both "dynamite" to the Codlin Moth and "dynamite" in residue removal should it be applied later than July 1 (January 1 in Australia).

"W.S.C. Dynamite" is to-day the most effective commercially used Codlin Moth spray available, as far as can be determined. It owes its superiority compared to lead arsenate-paste emulsion mixture to the fact that in addition to its high ovicidal value, it is an inverted mixture which with heavy application is capable of building up an enormous load of arsenical in a smooth oily film. A heavy dosage of this mixture will result in less than 1 per cent. wormy fruit where paste-type emulsion mixture as heavily applied will give about 13 per cent. wormy fruit, and lead arsenate alone even twice as heavily applied, will give about 45 per cent. wormy fruit.

Now for a Digression

to the subject of general practice in Codlin Moth control. Though because of difficulty in removing lead arsenate residue, "dynamite" should not be applied subsequent to late June, and mineral oil in any other form subsequent to early July, mineral oil sprays intelligently used are nevertheless of great assistance in the struggle to raise clean Apples in the warm lower valleys of Central Washington.

Where serious residue troubles have arisen from mineral oil, they have been traced to an error in planning the spray programme.

The grower should not underestimate the seriousness of his Codlin Moth problem, nor be so worried about residue removal in early Spri that he tries to "get by" with a we spray programme where a strong o is indicated. This practice often lea to a serious late season infestatio which can only be halted by those b lated and drastic measures which a the dark spectre of residue remov operations. A good rule would be "I more than six spray applications wer required for satisfactory control o the Codlin Moth last year, spray mor carefully and use a more effectiv spray mixture in the second, third an fourth covers for first brood thi year."

At all costs, the grower should try to avoid even so-called second brood sprays containing mineral oil or very late second brood arsenical sprays of any type.

He should bend every effort to obtain first brood control, bearing in mind that any arsenical spray mixture may be "dynamite" if applied late in the season, but that the real "dynamite" as it is now known, though requiring intelligent handling both at spray tank and guns, is not a serious trouble maker if used as it should be used—early in the season, and if good washing equipment is available.

It is not advisable to apply it in the first cover spray, for ½ per cent. oil in any form at that time may occasion serious fruit drop.

N.S.W. BANANAS AND PINEAPPLES.

The beneficial rains in February greatly assisted the growth of **Bananas** around the Tweed Heads and Brunswick districts, but cyclonic storms caused much damage. Fair supplies are coming forward. The heavy consignments from Macksville slacken off after mid-March.

Departmental reports indicate good crops of **Pineapples** around Lismore—rough and smooth leaf being plentiful until mid-March.

Passionfruit in N.S.W.

Around Lismore preparations are in hand for increased plantings of Passionfruit vines. Increased production should be noticeable within the next twelve months.

BANANA SHORTAGE IN MELBOURNE.

Northern Floods Cause Damage in Mid-March.

Floods in Queensland and N.S.W. caused supplies of Bananas arriving in Melbourne in mid-March to be the smallest for years. Many plantations were flooded, and growers were unable to make deliveries to rail sidings. Normally, between 6,000 and 10,000 cases of Bananas would have been available at the markets on March 20 but in view of the flood position there were only a few hundred cases.

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New South Wales.

FRUIT AT THE SYDNEY SHOW

Superb Quality of Apples and Pears

ALTHOUGH MANY FRUIT DISTRICTS in N.S.W. suffered from frost and hail, there was no evidence of the fact in the displays of fruit at the Sydney Royal Show—except possibly in the fact that this year there were five pyramids of Apples as against six last year. N.S.W. growers are to be congratulated on the magnificent fruit displayed. These displays of fruit are not only a good advertisement for the districts which put up the exhibits, but they are of the greatest possible value to the industry, giving the public a definite lead as regards specific varieties and encouraging the demand for high-class fruit.

The Chief Horticulturist, Mr. C. G. Savage, stated the fruit was a credit to the growers. A Victorian visitor, seeing the Sydney Show for the first time, was deeply impressed, not only with the quality of the individual specimens displayed, but with the impressive effect of massed displays.

Mr. W. H. Broadfoot, Department of Agriculture, who judged the open class Pears, also spoke most favorably of the exhibits.

"All day long," he said, "we have been looking even for minor imperfections, but we have found nothing to shake our faith in the work of our orchardists."

Tallong's Double Win.

Prizes for the pyramids were awarded as follow:—

Tallong District Fruit Growers' Association, 87 points, 1; Hartley District Fruit Growers' Association, 86 points, 2; Orange Producers' Rural Co-operative Society Ltd., 85½ points, 3.

Other excellent pyramid exhibits were from the Goulburn and District Chamber of Commerce and the Leeton Agric. Society.

For Pear pyramids the awards were:—

Tallong District Fruit Growers' Association, 85 points, 1; Leeton Agricultural Society, 64½ points, 2.

The difficulty of the judges in making the awards is instanced in the fact that with regard to the Apple pyramids, only two points separated the first and third entries.

All districts showed four varieties of Apples: Granny Smith, Rome Beauty, Delicious and Jonathan.

Exhibitors in the Tallong pyramid were Messrs. Morris and Sons (all four varieties), R. Kettle (Rome Beauty and Granny Smith), R. C. Wombey (Delicious), Davenport Bros. (Delicious), T. Davidson (Granny Smith), and W. A. Young and Sons (Granny Smith and Delicious).

There were only two Pear pyramids, compared with four last year. They were exhibited by the Tallong and Leeton districts.

In the Tallong pyramid, the same growers exhibiting in the Apple pyramid were showing Pears, with the addition of Mr. G. Finlay. The varieties are Packham, Winter Cole, Buerre Bosc, and Josephine.

In the Hartley Apple pyramid (winner of the last two shows), the fruit came from Messrs. W. S. Cripps, M. G. Martin, E. L. Scrivener, G. Valder, C. Riley, Howarth Bros., A. J. Merrick, P. F. Baaner and the Lithgow Co-op.

The Orange pyramid contained some very fine Granny Smiths grown by Mr. S. A. Stanford. They were of even size and an excellent color.

Other growers from the Orange district exhibiting were Mr. A. W. Salter (Rome Beauties), Messrs. R. Brown and R. W. Ray (Jonathans), and Mr. R. W. Scott (Delicious).

Much of the crop at Goulburn this season was spoilt by hail, and only three growers were exhibiting. They were Messrs. O. Feld, W. Grocott and Mills Bros.

The Jonathans and Delicious were very good in size and quality, but the Rome Beauties were rather uneven.

In the Leeton pyramid King David, Commerce, and Fanny varieties were also displayed. These were grown by Mr. P. Gersbach, aged 81, who has been exhibiting at the show since 1895. Other Leeton growers making displays were Messrs. L. Brackenridge and J. Brown.

In the Pear pyramid, Leeton showed Packham's Late, Winter Bartlett, Easter Beurre, Packham's Triumph, Madam Cole, Josephine and Kieffer.

Other Fruit Displays.

In the export class for Apples (2 doz. of each), the varieties shown were Rome Beauty, Granny Smith, Jonathan and Democrat. These were of uniformly high quality, the prizes being divided between P. M. Baaner, S. A. Stanford, W. S. Cripps, D. E. Mitchell, J. S. Cripps, N. W. Ross, R. W. Scott.

The Pear varieties included P.T., B.B., Jos., W. Cole, W.N. The prize-winners being W. S. Cripps, S. R. Mort, J. S. Cripps, R. Campbell, D. E. Mitchell, J. G. Hergenham, R. W. Scott.

Best bushel case of Apples for export: N. W. Ross 1, P. M. Baaner, 2.

Other Apple varieties in the several sections included first-class specimens of C.O.P., Gravenstein, Tasma, McIntosh Red, London Pippin and King David.

For the Orient Co.'s prize for Apples judged in Sydney and in London — four cases two varieties of each—the points scored in Sydney were P. M. Baaner (Jon., R.B.) 91½, P. M. Baaner (G.S. and Jon.) 89½, N. W. Ross (R.B., G.S.) 89½, R. W. Scott (R.B., G.S.) 89, Morris and Sons (R.B., G.S.) 88, D. E. Mitchell (R.B. G.S.) 87½, S. A. Stanford (G.S., R.B.) 87, C. P. Scrivener (R.B., G.S.) 86½, W. S. Cripps (R.B., G.S.) 85, K. Groundwater (R.B., G.S.) 83, W. S. Cripps (Del., G.S.) 80½, J. S. Cripps (Dunns, G.S.) 79.

N.S.W. FRUIT SHOWS.

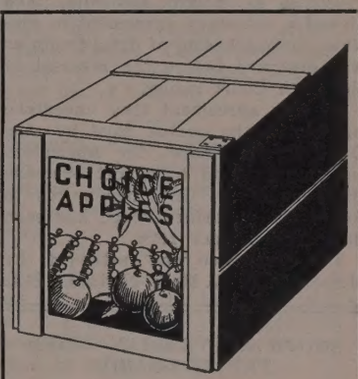
Goulburn: At the annual show in March, unusually high quality fruit was displayed. Apple varieties included Granny Smith, Democrat, Romes, Cleo., McIntosh Red and King David; Pears—B. Bosc., Packhams, Clairgeau, and Howell.

Among the principal prize-winners were Messrs. Mills Bros., Geo. Brown and Son, W. G. Grunsell, R. Hollis, Hunt and Maloney, Teneriff Estate, L. E. B. Cooper, W. G. Frost and Miss J. Hunt.

Manning River: Among the many exhibits at the recent show, fruit entries were pleasing: these included Oranges, Bananas, Plantains, Lisbon Lemons, Apples (Jon., G.S.); Pears, Purple Guavas, Cape Gooseberries, Persimmons, Figs, Pomegranates, Walnuts and Watermelons. The prize-winners included A. Edwards, Hughes and Findlay, N. Cameron, H. G. Murrell, J. E. Hammond, Mrs. H. McKay, E. J. Hayes, R. D. McLennan, F. Ford, S. A. Bridge, F. W. Wynter and Miss M. McDonald.

Tumberumba: Apples, Pears, Peaches, Plums, and other fruits provided a decidedly interesting feature of the Tumberumba Show in March. Amongst Apple varieties were well-grown Grannies, Jons., King David, Dunn's, Cleo., Stayman's Winesap, Democrat, Grav., C.O.P. and Statesman. Pear varieties included W.B.C., Packhams Triumph and others. Clingstone Peaches, light and dark Plums were on view. Among the prize winners were Messrs. J. A. Cowley, B. Hargreaves, P. R. Little, H. S. Adams, J. Fredricks, Sinclair and Co., C. S. Williams, W. Wenle, T. N. Gadd, W. Burgess and P. Levett.

Camden: Among the Grape varieties at the recent Camden Show were White and Black Muscats, Late Sherry, and others, the prizes being divided between W. A. Larnach and W. A. E. Biffin. Apple varieties included G.S., Jonathan, Del., Fanny, McIntosh Red, Yates. For case of Apples packed for export, also pyramid of Pears, Mr. C. W. Sharp came first. This exhibition won many other prizes, as also did Messrs. A. and R. K. Hughes. G. Longley scored with Lemons and S. Dunbar with Valencia Oranges.



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DRIED FRUITS NEWS AND NOTES

Present System to Continue

Voluntary Action by Dried Fruits Growers

Following the now famous decision of the Privy Council on what has become historically known as the "Dried Fruits Case," a voluntary agreement, to which growers and dealers in all producing States might subscribe, has been under consideration and was submitted to a conference of representatives of all sections of the dried fruits industry at a conference recently held in Melbourne.

The conference was informed that all dealers in the Commonwealth, except two in South Australia, had signed a voluntary agreement to continue the marketing of dried fruits as was observed before the reversal of the High Court ruling.

By this agreement they undertake to observe the quotas fixed by the Dried Fruits Boards for Australian consumption and to export overseas the remainder. In other words to follow the procedure which has been in operation since 1925.

The conference was attended by Messrs. G. A. W. Pape, chairman S.A. Board; Parker J. Maloney, chairman Victorian Board; G. J. Evatt, chairman N.S.W. Board; H. D. Howie and Peter Mallock, representing A.D.F.A.; C. E. Russell and T. N. Ellis; S.A. and N.S.W. independent dealers; W. Cremor, Secretary Vic. Board; G. A. Try, Secretary N.S.W. Board, and W. N. Twiss, Secretary S.A. Board, and Secretary of the Conference.

The Conference agreed that neither the Privy Council decision nor the recent referendum has nullified standing State legislation in regard to the marketing of dried fruits, nor are the powers of the State Boards in any way impaired, therefore the Boards will continue to function as formerly. They point out that the conditions, legally laid down, still operate and that they will insist upon the regulations being adhered to. One important point made is that all fruit sold must be processed and packed in a registered packing house, otherwise the vendor and purchaser are equally liable.

SOUTH AUSTRALIAN DRIED FRUITS BOARD.

THE S.A. Board held a meeting on March 15, when all members and Secretary were present.

The result of the referendum was noted.

In regard to the allegations by F. A. James in "Smith's Weekly," the Secretary reported that the Adelaide newspapers had refused to publish the Board's reply on the grounds that the allegations had appeared in another newspaper; further, that the Board's statement could not be published as an advertisement as the Board had no legal power to use its funds for that purpose.

The Chairman reported that the Advisory Committee appointed by the Trade Agreement had met and had made an exhaustive survey of the estimated tonnage of dried fruits held by those who were signatories to the Agreement, and by those who had refused to sign the Agreement.

The Committee would meet again in a few days' time, when a recommendation would be made to the trade in regard to the adoption of the Agreement. The members stressed the vital importance of the Agreement in holding prices for the present season's pack, and it was agreed that in the event of the Advisory Committee recommending the adoption of the Agreement, a circular letter be sent to all growers urging them to give their unqualified support to those dealers who had signed the Agreement, and also pointing out to them the effect of the rejection of the Referendum proposal.

A letter was received from the Chief Horticulturist, Department of Agriculture (Mr. A. G. Strickland, M.Ag.Sc.), suggesting that a conference of packers be called to agree on a method of determining the sulphur dioxide content of dried Apricots. The Secretary was directed to endeavour to arrange such a conference.

A letter was received from the Royal Agricultural and Horticultural Society to make a donation for awards in the Cookery Section in the competitions in connection with the 1937 Show, and it was agreed to appropriate £10 for this purpose.

Dealers' registrations, packing house registrations, renewals and transfers were dealt with as well as the usual financial business.

N.S.W. QUOTAS.

The Minister for Agriculture, Mr. Hugh Main, has decided, on the recommendation of the New South Wales Dried Fruits Board, that the following percentages of the varieties of dried fruits shown hereunder shall be the maximum proportions which may be marketed within the State of New South Wales:—Currants, 15 per cent.; Sultanas, 12½ per cent.; Lexias, 40 per cent.; Prunes, 60 per cent.; Peaches, 50 per cent.; Nectarines, 60 per cent.; Pears, 30 per cent.

The above are preliminary quotas only, and are based on early estimates of production for the season. The proportions are subject to revision, if necessary, at a later date, when more detailed information in respect of production of dried fruits is available.

A quota for dried Apricots has not been determined, pending receipt of further information from producing districts in regard to production.

VICTORIAN QUOTAS.

By notification in the Government "Gazette," the Minister of Agriculture (Mr. Hogan) has announced that the maximum proportions of Currants, Sultanas, Lexias, Prunes, Peaches, Nectarines and Pears, produced in 1937, that have to be marketed within Victoria have been fixed as follow:—Currants, 15 per cent.; Sultanas, 12½ per cent.; Lexias, 40 per cent.; Prunes, 60 per cent.; Peaches, 50 per cent.; Nectarines, 60 per cent., and Pears, 30 per cent.

TOPPING DRIED FRUIT.

£200 Fine in U.S.A.

A large manufacturer in Los Angeles has been fined £200 for topping first-quality dried fruit in holiday packages covered with glazed paper while the lower layers were made up of inferior fruit. In addition, the boxes were only partly filled, containing a false bottom and the package appeared to contain more fruit than it actually contained.

This is one reason why dried fruits are not as popular as they should be. Quality again is the important thing from a buyer's point of view, and the public must be protected from such practices. If and when dried fruits are uniform in good quality, fresh and attractively packed and are sold in packages suitable for dessert use, the consumption will appreciably increase.

NEW DRIED FRUITS PRICES.

A revision of prices is announced and a general reduction has been tabled according to variety and grade.

Single box prices: — Currants: 4-crown, 7¾d. per lb.; 3-crown, 7¼d.; 2-crown, 6¾d.; 1-crown, 6¼d.; M.F. grade, 5¾d.; Sultanas, 5-crown, 8¾d.; 4-crown, 7¾d.; 3-crown, 7¼d.; 2-crown, 7d.; 1-crown, 6¾d., and plain, 6½d. Lexias, 6-crown, 6¾d.; 5-crown, 5¾d.; 4-crown, 5½d., and 2 and 3-crown, 5¼d. Seedless Raisins, 6d. per lb.; seeded Raisins, in 1-lb. cartons, 7/3 a dozen; 12-oz., 6/-; 8-oz., 4/4½; bulk, 6¾d. lb.

PRUNE BOUNTY.

Applications Due Before June 30.

The Federal Parliament recently passed legislation providing for a bounty of one halfpenny per lb. for Prunes exported from Australia in 1936. The bounty is payable to growers if application is lodged, before June 30 next, with the Secretary, Department of Commerce, Canberra.

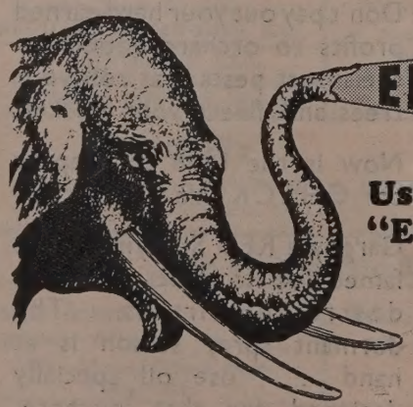
Growers not having already received application forms can obtain same upon application to the Department.

GERMAN IMPORTS COMPARED.

A comparison in imports into Germany of dried fruits between 1935 and 1936, show that the total quantities were approximately the same. In 1936 Germany imported 48,770 tons of Raisins, 17,135 tons Prunes, 9,991 tons Currants, and 5,692 tons dried tree fruits. Of this total quantity of 81,588 tons, U.S.A. supplied only 5,880 tons in 1936, whereas in 1935 that country supplied 14,566 tons.

PRUNE BEER.

A report comes from California that Prune beer made from below-standard fruit is now being manufactured. One factory is turning out 200 barrels per day. The report does not say whether the beer contains a "kick" or not or whether people favor this new beverage, but everybody knows that Americans will try anything once, therefore it is likely that Prune beer will find many advocates.



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Extract "BETTER FRUIT," U.S.A., February, 1934: "Idaho Spray Programme for Codlin Moth Control, 1934," by Dr. Claude Wakeland, Department of Entomology, University of Idaho. Experiments in the State for the past six years have shown that LEAD ARSENATE is the best, as well as the most economical insecticide that we have tested for Codlin Moth control. Entomologists are agreed that there is no substitute for Lead Arsenate that can be recommended to the public.

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S.A.—Silbert, Sharp & Bishop Ltd., Rundle St. E., Adelaide.
W.A.—Westralian Farmers' Ltd., 569 Wellington St., Perth.
Tas.—R. Nettlefold Pty., Hobart. Bell & Gerrard, Launceston. Cocker, Bell Pty., Devonport.
N.Z.—Pizzey, McInnes Ltd., Box 1114, G.P.O., Auckland.

SCANNED 49 of 132

CITRUS NEWS & NOTES

CITRUS BOUNTY.

Cost of Production Increasing.

In presenting a claim for continuance of the bounty on citrus fruits, Messrs. Blick and McDermott (N.S.W.), recently pointed out to the Assistant Minister of Commerce that there had been an increase in the cost of cases and wrapping paper amounting to 5d. per case. It was anticipated that the crop this year would approximate that of last year, but as the apple crop was larger this year it meant more competition to citrus fruits, and the Government's assistance would therefore be required.

Mr. Thorby promised to place the matter before Dr. Earle Page and the Cabinet.

CITRUS IN THE SHIPPING STRIKE.

During the recent shipping strike on the Pacific Coast in U.S.A., Honolulu fruit merchants were unable to get citrus fruits from America. One enterprising fruit merchant in Hawaii conceived the idea of shipping Oranges by parcels post to get over the strike difficulty. To meet post office regulations he had to pack in half cases. The 40 boxes of Oranges and 30 boxes of Lemons cost £150 in postage alone, and retailed at 5/3 per dozen.

To keep Hawaiian merchants supplied with Californian citrus fruit during the shipping strike, "Sunkist" distributors chartered a special ship and sent 1,000 cases via Vancouver. The U.S. Navy Department made its contribution by shipping 3,500 cases by a navy transport.

CITRUS COUNCIL.

State Representatives Announced.

The Assistant Minister of Commerce has announced the following representatives of the four States on the Australian Citrus Advisory Council:—

New South Wales: Messrs. J. Heane, A. S. Brown, J. E. Ward and J. W. Blick; Victoria: Messrs. D. B. Halhed and A. W. Schwennesen; South Australia: Messrs. A. P. Wishart and N. H. Underwood; Queensland: Mr. B. Flewell Smith; West Australia, not yet forwarded its nominations.

N.S.W. CITRUS DECLINES.

Decrease of 3,858 Acres.

According to Mr. C. G. Savage, N.S.W. Director of Fruit Culture, there has been a large decrease of acreage under citrus fruit during recent years. In 1930 there was a total acreage of 30,177 acres, but by 1935 this has declined to 26,319 acres.

The decline has been effected more in Mandarins, about 23 per cent. against 9 per cent. decline in Oranges. Whilst the yield per acre of Washington Navels has increased, that of Mandarins has remained practically stationary.

Popularity has swung from Mandarins to Oranges in the past few years, reflecting in lowered prices for the former, but in the five-year period, yield per acre of all citrus fruits has increased from 105 bushels to 115 bushels or an increase of about 141,000 bushels, in spite of decreased acreage. This increase is partly due to improved cultural methods and to young plantations coming into bearing. N.S.W. produces about 60 per cent. of all Australian citrus production.

HOW FLORIDA CITRUS CANNING HAS DEVELOPED.

Doubled Production in Year.

STATISTICS supplied by "Florida Grower" show that the production of canned citrus products doubled in 1935 all previous records. At last report, 1936 looked like equalling 1935 figures. Representing number of cases, the development in the last ten years is remarkable.

	Sections of Grapefruit.	Grapefruit Juice.	Orange Juice.	Total Cases.
1925	400,000	—	—	400,000
1929	957,000	205,000	—	1,162,000
1933	2,161,075	725,967	64,319	2,952,261
1935	3,588,042	2,236,726	240,867	6,065,635

DISCOVERING INFECTED TREES.

Autogiros Used in U.S.A.

Australian Departments of Agriculture could well learn from their American contemporaries. The U.S. Department of Entomology and Plant Quarantine now uses autogiros in efforts to discover infected citrus trees. Last Winter in Louisiana an autogiro was used to discover citrus trees in marshy areas, and about 600 such trees were found which are thought to have grown from seeds dropped by hunters on elevated dry land in the marshes.

The trees were located and mapped and ground parties penetrated through the marshes to the mapped areas. The result of this inspection from the air and subsequent discovery of wild citrus trees was that several trees were found to be infected with disease, and the theory was that they were a menace to surrounding orchards.

However improbable such a proceeding may sound to some Australian readers, it does at least testify to the thoroughness of the American Departments of Agriculture in their effort to do their job efficiently.

CITRUS CONFERENCE IN JERUSALEM.

An Historical Background.

Citrus culture has been known in Palestine from the days of Old Testament history, but it is only comparatively recently that it has become a commercially competitive industry with producers of other countries. On January 25 last, a conference was held in Jerusalem which was attended by growers, technicians and officers of the Agricultural Department.

The prevention of wastage of citrus fruits, cool storage, export conditions, packing and inspection, and many other modern problems similar to those experienced by growers in other countries were considered. Whilst Palestine might be considered an infant in citrus export, she is strongly organising, and the "Old World" is fast becoming modernised in every way. One significant movement was approved: that the sum of £100,000 (Palestine currency) be spent on advertising in the next three years and that production be increased accordingly.

Citrus Round the World

SEVERAL packing houses in California have installed Citrus X-Ray machines to determine the condition of dry or frozen citrus fruits.

Owing to a severe freeze in January, it is estimated that 40 per cent. of the citrus fruits on the trees at the time will be a total loss. Slightly damaged fruit will be processed.

There are 60,000 acres of Lemon trees in California, of which about 30 per cent. are non-bearing.

Unless Spring frosts occur, Florida will have a bumper citrus harvest. Weather conditions favor the earliest bloom in Florida's fruit history.

A record production for a Lemon orchard that still stands, was reported from Corona, Calif., away back in 1911. A 10-acre orchard produced 560,000 lbs. of Lemons.

Palestine citrus growers suffered losses from two destructive gales in December last. As high as 30 per cent. loss was reported from some groves.

For the first time in the district, a wind machine, driven by motor, was used to prevent frost on a Monrovia Orange orchard recently. It was reported to be satisfactory.

Reuters, the famous English Cable Service Company, have introduced a new cable service to Palestine citrus merchants. They will give weekly reports of arrivals in Britain, sales, stocks, prices, supply and demand, and all relative information about citrus markets in Great Britain.

One thing the war has done for Spain is that it has forced citrus growers to organise for the distribution of their crops. More fruit is now being exported by co-operative societies than before, and private export houses are handling less.

Greece is planting new varieties that will ensure a supply of Summer Oranges. One variety, called Sultani, is said to be seedless and contains an abundance of juice. The citrus crop will almost double the production of last year.

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Canned Fruits Notes

CANNED FRUITS EXPORTS DROP.

Canada 18 Per Cent. Less in 1936.

The Imperial Economic Committee advises that the total shipments of canned fruits from Canada to Great Britain in 1936 were 18 per cent. lower than in 1935. Of all varieties, Pears suffered the greatest decrease, being 40 per cent. lower. Apples, for the first time assumed first place in importance. The shipments totalled 469,856 cases, of which Apples represented 205,415 cases, Pears 144,995, and Cherries 29,933 cases. The total shipments in 1935 were 574,355 cases.

Australia Also Down. 15 Per Cent. Less.

As compared with 1935, Australia's contribution in canned fruits to Great Britain were 15 per cent. lower in 1936 than in 1935. Whereas in 1935, 1,048,804 cases were shipped, in 1936 the total was only 893,026 cases. The main varieties comprising this total in 1936 were:—Peaches, 433,905 cases (20 per cent. lower); Pears, 314,257 (8 per cent. higher); Apricots, 119,983 (16 per cent. lower); Pineapples, 8,020 cases (79 per cent. lower); Black Currants, 4,625 cases (68 per cent. lower); and miscellaneous, 12,236 cases (29 per cent. lower).

Malayan Pineapple exports to U.K. were slightly higher, with 2,399,300 cases, as against 2,358,800 cases in 1935.

RESULT OF SHIPPING STRIKE.

U.S.A. Shipments to U.K. Low.

As a result of the shipping strike on the Pacific Coast, U.S.A. shipments of canned fruits to Great Britain were lowered by 60 per cent. in January, 1937, as compared with those of the same month in 1935. The main fruits arriving from U.S.A. during January were:—Apples, 75,774 cases; Pears, 43,388; Pineapples, 84,275; Grapefruit, 12,431; in a total of 258,180 cases, as against 948,852 cases in January, 1935.

OVER A MILLION CASES.

Sales to Britain Larger.

In the first month after sales were opened in Britain for the new season's Australian pack, sales exceeding those of the whole 1936 season were reported. Approximately one million cases of canned fruits were placed with British buyers. In 1936 sales aggregated 929,000 cases. The full export surplus of Apricots was cleared and sales of Peaches were more than satisfactory.

The year's pack of Pears has been heavier than usual, yet sales exceeded those of the whole 1936 season by approximately 60 per cent. The shipments made up to the end of January totalled over 15,000 cases, and comprised 7,000 cases to Great Britain, 5,000 cases to New Zealand, 2,000 cases to the East, and 400 cases to Canada.

ARDMONA REPORTS RECORD SEASON.

The Ardmona Cannery reports that they have processed a record tonnage of Bartlett Pears this year, also that their tonnage of mid-season Peaches has been the heaviest for several years. The number of employees engaged has also created a new record. Mr. H. J. Williams, managing director of Ardmona Cannery, states that last year's record Pear tonnage was exceeded by 10 per cent., and the addition of 8 Pear-peeling machines has raised the daily capacity of the cannery by 50 per cent.

Shipment of the new season's pack to Britain is unusually high for this time of the year, and looks like continuing for some time. With the fine quality of the late Cling crop, record quantities are being processed.

HISTORY OF CANNING.

The story of canning goes back to 1795, when the French Government sought to improve the food supply of its army and navy by offering a prize for the discovery of some method of preserving food from one harvest to another. A Parisian confectioner, by the name of Nicholas Appert, succeeded in 1809 in preserving certain foods by sealing them in specially made glass bottles which were kept in boiling water for various lengths of time.

He had found a way to preserve foods, but he did not know why his method worked. Nor did anyone else for many years. This fact did not deter the increasing use of his method. Thus by the trial-and-error method canners discovered how long it was best to heat various foods in boiling water to make them keep. This rule-of-thumb procedure governed the industry for over eighty years before the scientific basis of canning was worked out.

One of the first problems was to find a container lower in cost than the bottles first used, and more easily and efficiently sealed. The answer to this need was found in the tin can. The second great need was some way to apply a higher temperature to the cans of foods so as to reduce the cooking time. The real solution of this problem came with the invention of the retort by A. K. Shriver in 1874.

Pasteur in 1860 announced his theory of fermentation and then accurate information about the true causes of food spoilage was secured.—"Orchardist of N.Z."

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It may be used in combination with most other Spraying materials if mixed according to directions. Vine growers may use it in combination with their usual Copper sprays in districts where Oidium is prevalent.

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APPLE DISTRICTS

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ARTICLE NO. 2 (CONCLUDED).

By P. H. Thomas, Chief Horticulturist, Tasmanian Department of Agriculture.

In our March issue appeared the first portion of Mr. Thomas' report. This dealt with Apples grown under irrigation in the State of Washington; the seriousness of the Codlin Moth pest, pruning, varieties, etc.

The second article herewith is the concluding one.

Grading Regulations.

THE GRADE STANDARDS adopted by the different States and Provinces are very similar to those which we now have in Australia, except that higher color requirements are specified for the popular dessert varieties, such as Delicious and Jonathan. There is also a slightly greater tolerance permitted for insect blemishes in the Fancy Grade, the maximum being four healed over stings on the percentage allowance.

With regard to sizing. No specific conditions are laid down such as have been adopted in Australia, the term "fairly even sizing" being used in the regulations. By this packing is not limited to certain defined groups of sizes and the whole of the packing houses operate on the count system.

It is also permissible to combine certain grades such as Extra Fancy and Fancy—Fancy and C. Grade — Orchard Run. When this is carried out there is generally a provision that the case contains at least 25 per cent. of the higher grade included in the combination.

For the overseas export trade only Extra Fancy and Fancy grades are used.

Under the present conditions and organisation it appears almost possible for the trade to be carried on with very few regulations. **The majority of the packing houses I visited were voluntarily packing above the required standard, and growers and all concerned with the industry realise there is no place on the market for inferior or badly packed fruit.**

Picking.

Of the varieties grown in Tasmania—Jonathan, Delicious and Rome Beauty are the principal ones commercially produced in Canada and U.S.A. By first visiting California it was possible to travel north and follow up the harvesting and packing of these kinds and make some useful comparisons as to the methods employed. Although the majority of the States concerned in this industry export to Europe, and naturally desire to take advantage of the early market, no fruit is picked until it is well advanced towards maturity.

Picking is carried out in export cases, the type of bag used being very similar to that employed in this State. Most crops are gone over two or three times in order to preserve a high color standard.

Under the climatic conditions experienced during harvesting — warm dry weather — the cases are seldom soiled during the operations; moreover, the smooth pine timber is not affected to the same extent as eucalypt timber.

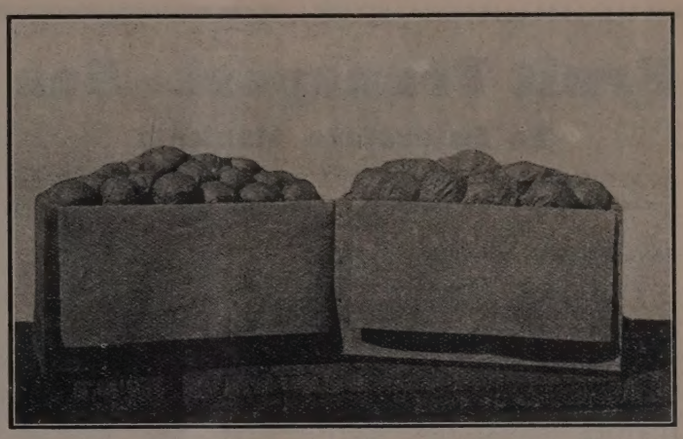
Although the early pickings were taking place in the different districts at the time of my visit, practically no bitter pit was in evidence. This disease is experienced to a certain extent in British Columbia, especially with Cox's Orange Pippin. **The majority of growers, however, producing this variety realise the important influence maturity and tree yield exercise in the development of the disease and endeavor to keep their pack within the recognised requirements.** Picking costs are estimated at 3½ cents to 4 cents per packed bushel.

Removal of Spray Residue.

Tasmanian growers must indeed consider themselves fortunate in that they can produce their crops without the necessity for subsequent washing to remove spray residue. Every packing house visited south of the Canadian border was equipped with a washing machine.

As soon as the fruit is received from the orchard it is placed on a conveyor that delivers it to the washing apparatus. The first washing is made in a bath of sodium silicate (80 lbs. to 100 gals, of water) heated to a temperature of from 105-115 deg. F. This is forcibly sprayed on to the Apples as they revolve on the conveyors and has the effect of loosening the deposit. Next follows a rinsing in fresh water and they then enter a warm bath of hydrochloric acid (1½ to 2 per cent.) solution, for a period of 32 seconds to a minute, when a further rinsing takes place.

All processes are carried out on automatic conveyors in enclosed spray baths and when the fruit finally emerges it passes under a series of revolving shafts fitted with loose velour strips that absorb most of the adhering moisture.



Throughout the N.W. Apple industry the Canadian standard case, 18in. x 11½in. x 10½in. (international dimensions) is used.

In most of the packing houses the washing appartus is located in a separate section of the building, the fruit, after treatment being conveyed to the sorting table.

In British Columbia the spray residue problem is not so serious, and most packing houses keep their fruit well within the tolerance by means of automatic cleaners. These appear to be quite effective as long as the revolving wipers are periodically removed and changed. Fruit passing through these machines receive very little more than a vigorous dry wiping, which does not appear to cause any subsequent injury.

Grading and Sizing.

In the N.W. Apple districts the Cutler type of grading and sizing machines are generally favored, although on the smaller outfits a number of the "Ideal" type are still in use. Machines are now built by the manufacturers to suit requirements, and the problem practically resolves itself into the number of units necessary to handle the pack.

An average unit of the Cutler type will put through 10,000 to 12,000 packed cases per diem.

During recent years the sizing machines have been much improved, efforts being directed towards reducing risks of bruising and facilitating handling. The new revolving receiving bins are generally recognised as a splendid innovation, facilitating delivery, besides economising on floor space.

The most striking feature of grading and sizing operations throughout all centres is the amount of care that is devoted to sorting. In the type of machine described from 15 to 20 hands are employed. These are generally housed half each side of the sorting table in a separate compartment through which the newly washed fruit passes.

Practically every Apple is inspected as it passes over the table and hand placed on to the conveyor belt according to grade. Fruit that is missed automatically returns again before the sorters for re-inspection. **In order to facilitate examination the lighting is brought as near perfect as possible, special "daylight" electric light bulbs are installed and machines are equipped with eight to ten of these each side of the table.**

Under such conditions very efficient supervision is maintained over fruit delivered on to the sizing apparatus and packers rarely have to reject any reaching the bins. Sorting operatives are paid 25 cents per hour. Sorting and grading is estimated to cost 2 cents to 3 cents per bushel.

Packing to Count.

THE COUNT SYSTEM of packing is entirely carried out, and as long as an even run of fruit is maintained it is not, as in our regulations, limited to defined groups of sizes. During my visits to the dif-

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Buzacott & Co. Ltd.,
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Buzacott (Queensland) Ltd.,
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TASMANIA (Northern Districts)—
Gardner & McKenzie Pty. Ltd.,
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ferent packing houses I questioned numerous packers on the methods adopted, and in no case was any reference made to the size of the fruit being handled. This permits a full range of packs. **The system adopted of placing the fruits in the cases is known as the crown pack and is similar to that used by the progressive Tasmanian packing houses except that generally a higher and heavier pack is turned out. When completed the peak of "crown" Apples are 2½ in. to 3 in. above the top of the case, and the fruit at the sides and ends little more than half an inch above case level.**

Although there exists a general opinion that this "crown" is obtained by selecting slightly smaller Apples for the end positions in the cases, this is not entirely correct. It is true that packers may use any smaller Apples in the bins for these positions. The main principle, however, is a constant firm pressure on the side as well as the end Apples as each is placed in position. This is not applied to the central Apples, and results in a "crown" being gradually built throughout the pack.

With regard to the height of the pack and consequent "case" bulge. There is a general opinion amongst N.W. growers that this, in many cases, has been overdone, and fruit deterioration has resulted through bruising. During recent years there has been a competitive spirit amongst packing houses, largely encouraged by the buyers, as to who could fill the case to its maximum capacity. This has brought about a number of freak packs, but these are now generally discouraged.

At several of the centres visited, facilities were given me to check up on the packs and fruit weights of the shed turn out; these will be of interest to Tasmanian growers:—

Jonathan.

Pack.	Row.	Count.	Weight (lbs.).	Approx. size.
3 x 3	6 x 6	216	45	2⅝in.
3 x 2	6 x 6	150	44	2⅞in. and slightly under
3 x 2	5 x 5	125	43½	2⅞in.

Delicious (Richared).

3 x 2	7 x 6	163	51	2⅝in.
3 x 2	6 x 6	150	51	2⅝in.
3 x 2	5 x 5	125	49	2⅞in.
2 x 2	7 x 7	112	48½	3in.

Fruit packed for local or interstate marketing is generally placed in containers lined with a special crimped paper, red being used for Extra Fancy, blue for Fancy and white for Choice grades. For overseas export corrugated cardboard or paper pads are used. Packers' slips are inserted in each case carrying the number of the operator.

Oiled paper wraps are favored by most packing houses and are entirely used when fruit is going direct into cold storage. Whilst at Penticton, British Columbia, I saw a consignment of Delicious packed for shipment to New Zealand. These were carried in the cool room of the vessel on which I returned to Australia. The fruit arrived in good condition, and during the voyage the initial case bulge averaging 2½ in. was reduced to approximately 1¼ in. aggregate. Packing costs range from 28 cents to 34 cents per bushel, the different items being assessed as follows: — Packing 4 cents, case 14 cents (made up), paper, labelling, lining, etc., 5 cents; sorting and grading 3 cents. Floor labor 2 cents. The figures were supplied by a large co-operative association.

Cases.

Throughout the N.W. Apple industry the Canadian standard case, 18 in. x 11½ in. x 10½ in. (international dimensions) is used. In California a shallower case known as the Californian lug is popular, whilst in Idaho practically the whole of the crop is marketed in cheap wooden chip buckets holding one bushel. Four species of timber, viz., spruce, hemlock, Douglas fir and yellow pine (Pinus ponderosa) are used for case construction, the latter being preferred for cold storage purposes.

Whilst a large number of cases are still made by hand, the majority are

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Reader! Let the nearest A.M.P. office send an experienced man along to talk this matter over with you. If you prefer it, ask that a copy of "Investing in Happiness" be sent to you.

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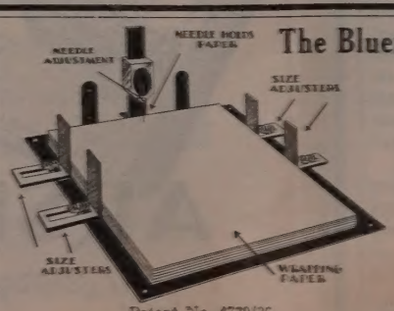

Patent No. 4779/36

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REMARKABLE for the speed and smoothness with which the paper may be drawn from the container.

NO WASTE—the needle-point control ensures that there is no waste or unsightly torn corners.

ADJUSTABLE to take various sizes of paper.

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FAST to work with and definitely improves packers' tallies — at the same time prevents the paper from shifting or buckling in the container.

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Enquiries invited from Victorian and Interstate Packing Houses regarding District Agencies.

Has been tested and proved under working conditions

...e put together in the case-making ...chines with which every large pack- ...g house is equipped. The majority ... the pine cases I examined were ... rather different to those received ... Tasmania. The end pieces were ... ¾ in. in width and often bevelled ... the edge which will come into con- ... with the contents. These were ...t in the one piece and averaged ... in width. Tops and bottoms ...ried, but the preference appeared ...be for a three-piece top and two- ...iece bottom ¾ in. in width. These ...re wire laced to the sides by ma- ...hines.

The three-piece top is sometimes made of spruce or hemlock cut in sheets as for plywood. By adopting this pattern the lid is more conveniently affixed to the "crown" type of pack now in general favor. Cleats are sometimes inserted flat or true to inclination at the corners enabling a ready determination of the grade in stacking or sorting.

Coloured labels or impressed designs are used on the ends of the cases and some amazing designs have been evolved by the large packing houses for use in their selling and advertising propaganda.

Inspection.

ALTHOUGH FRUIT is dispatched from the packing house by road, rail and water carriage inspection is very efficiently carried out by the respective State, Federal or Dominion authorities.

In the first place the costs of inspection are borne by the producers or packing houses, the rates ranging up to 3d. for The cases one has had. Fruit on inspection for cool storage is charged at the rate of 1½ cents per case. Added to these rates is the cost of weather and necessary certificates imposed by the Health authorities. **The work of inspection is very thoroughly carried out, and a splendid spirit of co-operation exists between growers, packing houses and the inspectorial officers.**

In making examinations the general procedure is to go right through a percentage of cases opened at random from the particular lot or variety. Any following drums are noted if a "run" provided for the inspection under the headings—color, bruises, sunscald, worm-stings, scale, decay, immaturity and packing. When completed these are added together and if the aggregate exceeds the tolerance permitted in the particular grade, the lot is rejected.

If the packed lot conforms to the requirements a certificate is issued to the effect together with the details of the examination.

Inspections of fruit being shipped at the packing houses are carried out after the fruit is packed, and in no circumstances is a certificate issued on a run of fruit in open boxes, or in the packing bins.

Packing.

With regard to the weight of Apples in the case. A minimum of 40 to 42 lbs. is maintained, which, in most cases, is owing to the size.

Packing has reached very useful proportions. The pack must be right and tight as to size to withstanding. **The Departmental officers do not favour the extreme bulge, but a compact pack, which gives a moderate bulge of approximately 2½ in. in the aggregate.**

Canadian case packed ready for shipment. Note the bulge.

With regard to sizing.

As has been stated, the packer is not bound by regulations to any grades of size. In actual experience no more than 6 grades of fruit is required, and a tolerance of 10 per cent. of the varieties is permitted to be counted over or under that marked on the case.

It may be considered that the system of packing and inspection detailed is rather involved and costly. However it is effective, and it is entirely on this system that U.S.A. and Canada have built up their trade to all parts of the world, the bulk of which is conducted on a cash f.o.b. basis. With regard to repacking rejected lots submitted for shipment. **The responsibility for ensuring that the pack complies with the grade requirements rests entirely with the packing house or individual. The principle is adopted throughout all the N.W. Apple States and no Department of Agriculture or Federal authority is prepared to shoulder the growers' or packers' responsibility in this respect.**

Cold Storage.

Without the cold storage facilities which are provided in all the principal centres, marketing on the present scale would be extremely difficult, if not impossible. As soon as the different varieties approach maturity and the requisite order has been signed, the cases are packed and forwarded to the packing house. The fruit is then wrapped, packed, wrapped in oiled papers and placed in cold storage. The fruit is then sold or shipped as required without repacking.

Under the dry conditions existing in the different centres of production, fungous disease is rare, and I understand that very little trouble is experienced from this cause with fruit in cold storage.

The majority of the packing house managers and growers whom I met do not favor the system of cold storing fruit naked, with subsequent wrapping and packing as required, owing to the excessive bruising experienced where it has been practised.

In **Wenatchee, Washington,** I examined what is claimed to be the most modern and up-to-date fruit packing plant in the world. This is practically exclusively for handling fruit, and has a total capacity of 70 tons per hour.

Separators, sprayers, grinders and methods of refrigeration are very similar to those installed in Tasmania. A number of cold stores have recently been constructed to accommodate a variety called Jonathan, which is peeled directly against the pressure valve of the building for insulation purposes. This is applied in sheets ½ in. in thickness and painted on the outside surfaces. It is claimed that better grading greater efficiency and economy in operation can be reduced on this method. Cool storage charges range from 10 cents to 16 cents per case for the season.

Packing and Marketing.

At the time of my visit the early varieties, Gravenstein, Winter Banana, Jonathan, Delicious and Maryniscott were coming on to the market, and opportunity was given me to study the different methods adopted.

Briefly, the North West Apple growers operate on three main systems:—

A. Co-operative Association handling packing and selling their shareholders' fruit.

B. Private packing houses.

C. Independent growers packing their own fruit.

With regard to A, some very strong Co-operative organisations have been built up, which, in some cases, mill their own case timber, own their own cold storage, and, in the case of the Hood River Association possess their mills and evaporated Apples, vinegar, and other by-products.

In comparing costs, the co-operatives generally showed a substantial cost reduction over B and C especially in packing and cold storage.

The N.W. Apple industry appears to have revised its original ideas of co-operative organisation. Profiting by past experience, to-day the objective is not a hundred per cent. membership covering all producers, but rather an affiliation of those who are desirable and efficient in their methods.

B.—This type of packing house appears to be firmly established in most districts. Cold storage facilities are generally available and the proprietors charge so much per case for their service to the grower, entailing receiving, washing, grading, packing and cold storage.

Fruit is also sold on behalf of the grower, or shipped to market on a commission basis, or sometimes bought in by the packing house owner.

C.—Independent growers generally carry out all the essentials detailed with the exception that they rent themselves of the private cold store and often offer their fruit for sale through the proprietors.

Very little fruit is now forwarded to any market on consignment, and the bulk of the overseas and home supplies are bought f.o.b. subject to Government certificate.

Apple By-Products.

Apples are processed into the different by-products by a number of commercial firms which have established plants in the different districts, the principal being evaporated Apples, vinegar and cider.

Owing to codlin moth infestation the percentage of culls in some districts is rather high. During recent years growers have been concerned with the disposal of this class of fruit locally. Apples with a number of sealed over stings, and a movement has been inaugurated in the principal Washington districts to keep it off the retail market.

Prices at the factories for cull Apples during recent years have been very low; in fact, in some instances the packing sheds have availed themselves of this means for the disposal of this class of fruit at a nominal price per ton. This year however, a movement has been started to obtain a minimum price for cull Apples, and owing to the short crop prices, have been appreciated, and 87 to 88 per ton is being offered at some factories.

Discussing the principal by-products. Over 80 per cent. of the vinegar used throughout the Western States is manufactured from Apples. It is pleasing to taste and is used for domestic and processing purposes. At some of the vinegar factories visited the pomace left after juice extraction was being dried in a large rotary cylinder and converted into stock food.

Cider and pasteurised Apple juice are popular throughout the Western Apple districts although the competition from other fruits, such as the Orange, Tomato, Prune, Pineapple and Grapefruit is very keen.

For 5 cents (2½d.) at most of the railway stations a glass of freshly expressed juice can be obtained. Of the other products, canned Apples, dried Apple rings and Apple juice are commercially produced in large quantities.

Amongst the confections one known as "Applets" is being manufactured that is most attractive. This is put up in a large range of sizes and is a valuable advertising medium for the Apple industry.

Advertising.

Notwithstanding that individual Apple packing associations have carried out a fair amount of advertising, the Apple rather lags behind other fruits in this respect, and statistics show a decided decline in the consumption per capita during recent years.

During my visit I collected a large number of pamphlets, nursery calendars, recipe wrappers, which are used by the different Associations.

There is a general opinion that although these have served a useful purpose in the past, the time is opportune for a more organised and sustained effort. With this object in view an endeavour has been mooted by the principal packing associations em-

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bracing the Hood River, Big Y, Winooka and Skookum organisations, to a joint advertising scheme throughout U.S.A., under the term "Washington State Apples Incorporated." This will eliminate the present duplication and permit a scheme to be adopted which will bring the principal varieties prominently before the public in their respective seasons.

Recommendations.

In the report recently submitted detailing the results of my investigations into the N.W. American Apple industry I purposely refrained from making any criticisms or recommendations regarding the general methods adopted in this State.

My reason for this was to allow fruit growers and others connected with the industry to carefully consider the contents, draw their own conclusions, examine their individual position and consider in which particular branches improvement could be effected. In visiting countries like America and Canada where conditions are so different to those existing in this State, very careful consideration needs to be given to the economic applicability of methods or practices which may appear inducive to improvement before recommending their adoption.

I have endeavoured to keep this before me in drawing up the following recommendations:—

(1) A still further reduction of varieties with the ultimate object of limiting production to twelve or fifteen kinds.

(2) Establishment of affiliated co-operative units in each district with central packing houses in which all fruit would be packed and presented under a common label or trade mark.

(3) The adoption of the Standard Apple Case together with a guarantee of a minimum fruit weight of 40 lbs. for the contents.

(4) Registration of packers.

(5) Packing in the Standard case to be carried out on the "crown" system and designated by the recognised standard counts. Packers' slips, with their registered number to be inserted in each case.

(6) An amendment to the regulations regarding packing to permit a ten per cent. variation in the contents of the case of the next counts, over or under that stated on the label.

(7) More effective supervision over the sorting that takes place before the fruit goes over the grader.

(8) Inspection certificates detailing the results of examinations to be made available at a small fee of 6d. per 100 cases.

(9) An economic survey of the Apple industry to ascertain the prospects of manufacturing and profitably disposing of by-products from cull Apples with particular attention to cider, fresh Apple juice, and vinegar.

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69-79 WHITEMAN STREET, MELBOURNE SOUTH, S.C.5.

— Telephone, M 3141. —

"HARVEY" FRUIT GRADERS

Covent Garden, London

— APPRECIATION —

"This fruit opened up in very fresh and firm condition, and was most attractively packed. It was very pleasing to note the regularity of the shape of this extra fancy line of fruit—a particular feature which is usually lacking in many Tasmanian packs.

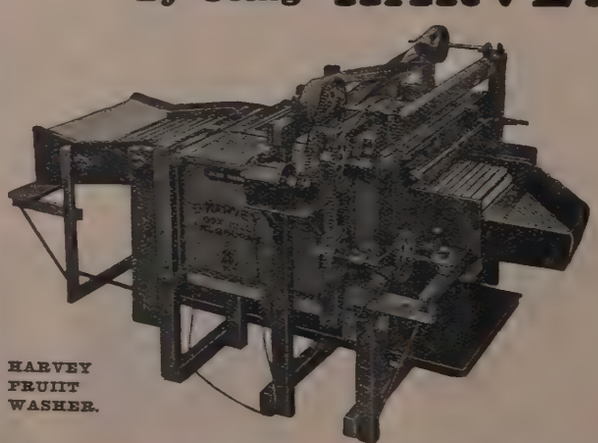
The grading of sizes was very accurate—it will be very interesting to know what type of grading machine you use, because we found your fruit very free from grader scratches and bruises.

Your packing is the best we have seen on the market this season. It is similar to the American in such a way that it shows a very firm pack and an even bulge which has not been obtained by using different sized apples." (Extract from letter received by A. B. Curran, Esq., East Tamar, Tasmania, **who uses a "Harvey" Grader.)**

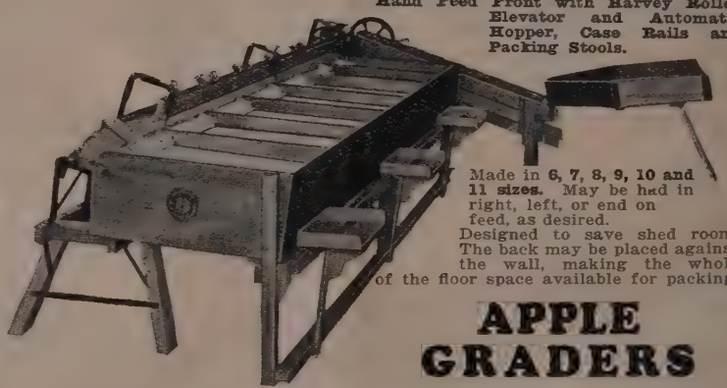
PEAR GRADERS—These Machines can be made to any capacity to suit the small grower or the large Packing Shed. Twin Machines to handle two or more qualities simultaneously can be supplied. The pears are carried along stalk downwards and are not rolled. They can be thrown on to the sorting table, which is constructed in a special manner with a canvas belt to ensure no bruising. The sizing device of the "HARVEY" Pear Grader is provided with rubber belts running in the same direction, and arranged to carry along the pears motionless to their respective bins. The grading sections are adjustable to give any grade desired, and are independently operated. The machine is fitted with spring floor bins, which obviate bruising. Can be operated equally well by hand or power, and is a fast and efficient Machine. Supplied in standard sizes or to any size or specification desired. In the London Market, where consignments have been particularly watched for mechanical grader marks, pears graded by the "HARVEY" Grader have opened up in perfect condition, being beautifully graded, and the pack showed up to the best advantage, and it is said that no better fruit has been received from any part of the world.

ARSENATE OF LEAD REMOVED FROM PEARS AND APPLES—

By Using HARVEY Hydrochloric Acid WASHER



HARVEY FRUIIT WASHER.



"HARVEY" Model 7CC Grader Right-Hand Feed Front with Harvey Roller Elevator and Automatic Hopper, Case Rails and Packing Stools.

Made in **6, 7, 8, 9, 10 and 11 sizes.** May be had in right, left, or end on feed, as desired. Designed to save shed room. The back may be placed against the wall, making the whole of the floor space available for packing.

APPLE GRADERS

COLOUR AND COUNT GRADING

Harvey Productions are sought after from many parts of the world. Harvey Patent Fruit Sizer grades by count, which gives a firm pack free from grader scratchings and bruises.

Start right—even a single-sided Harvey unit will form the splendid nucleus of a grading and packing plant that can be added to, incorporated with other units as the orchard comes into production or your business expands, and will form the nucleus of a 2, 3, or 4 quality color and count grading plant that will not go out of date. The Harvey 1937 Fruit Sizers have every desired feature incorporated in their patented make-up—independent adjustable sizing rollers mounted on ball races—each roller, every other one, or any rollers, may be driven or left free to suit—meet any difficulty for accurate grading.

SCIENTIFICALLY DESIGNED

The Cheapest and Surest Method of Washing Fruit. Enhances Appearance. NO BURNING—NO BRUISING can take place within the Machine itself, which THOROUGHLY WASHES the Fruit, removing all TRACES OF ARSENATE LEAD POISON and Hydrochloric Acid. As the season is fast approaching, please Order Early to Ensure Delivery.

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LIDDING PRESSES.	CANNERY GRADERS.
GRAVITY CONVEYERS.	TOMATO GRADERS.
APPLE WIPING MACHINES.	PASSION FRUIT GRADERS.
PEAR AND APPLE WASHING MACHINES.	CITRUS GRADERS.
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	DEHYDRATORS.

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Daniel Harvey Limited ORCHARD IMPLEMENT SPECIALISTS **Box Hill, Vic.**

New Zealand News and Notes

THE APPLE EXPORT SEASON — PACKING SUPPLIES — OVERSEAS MARKET PROSPECTS — GOVERNMENT GUARANTEE.

(By Our Correspondent.)

THE NEW ZEALAND APPLE export season is in full swing. There have been some minor pace cancellations, but generally peaking the early varieties have orked out approximately to estimate.

If anything, the crop is slightly on he early side. In some districts rowers have been inclined to leave he Apples on the trees for an increase n size, but under the weather condiions experienced it is safe to say hat this will have little effect. The ruit will be more inclined to mature han size up. Color is good and in offiial quarters it is held that the New Zealand export crop this year is almost 50 per cent. better in quality han 1936. It is doubtful whether the season's estimates will be reached. The percentage of pepper spot is higher than was anticipated, and owing to the cold weather having retarded the usual size development the crop will not fill the number of boxes anticipated. In many ways this is an advantage, as large-sized fruit is not wanted on the English market, and, generally speaking, the Old Country is the only worth-while market remaining since Continental countries restricted imports by quotas, tariff barriers, etc.

Packing Supplies.

The Pacific Coast strike seriously interfered with the arrival dates of imported cases and Apple wraps. Fortunately stocks were sufficient to cater for the early varieties, but it was necessary for a system of rationing to be introduced to avoid individual shortages. New Zealand, like Australia, is very dependent on outside countries for her Apple wrap supplies and a serious strike such as occurred on the Pacific coast is likely to have far-reaching effects. Fortunately the strike ended early enough for paper supplies to reach New Zealand in time to cater for the mid-season varieties. Those responsible for handling imports would sigh with relief when they were in the position of filling large orders in hand.

Markets.

According to all the information reaching New Zealand, there is every prospect of a favorable market overseas throughout the season. The expected absence of American fruit should help the early sales and prevent the banking up of supplies which usually takes place about the middle of the Australian and New Zealand season. It is not expected that the coronation festivities will have any great price influence, but on the other hand, the large number of visitors to England are all potential fruit eaters, and the effect must be felt, although possibly not to the extent it is expected in some quarters.

A strong demand evidently exists for New Zealand Apples in the Eastern Canadian Seaboard, and according to information released, certain quantities will go to Brazil and a further attempt will be made to develop Eastern markets. Until such time as New Zealand has a regular freight service to the East it is unlikely that the fruit trade will develop to any great extent as Australian competition is very keen.

Weather.

This probably is one of the most important factors during the picking season, and up to date the grower has faced many difficulties caused by the excessive rains which have fallen. Even in the arid regions of Central Otago, dull skies and wet weather have caused serious delays which are likely to have an effect on the loading programme.

Government Guarantee.

An announcement was made by the Minister of Agriculture during Christmas week that the Government were guaranteeing the fruit exporter 10/6 per case, c.i.f., New Zealand currency, London. This will be worth to the exporter approximately 6/6 f.o.b., New Zealand, the actual return to the shipper depending on his orchard location and cost of putting the fruit f.o.b. It can be generally assumed that the overall average cost to put a case of fruit f.o.b. New Zealand ports from the orchard is approximately 1/- per case, so that the grower is assured of a return of 5/6 at his railway station. and in some cases where the orchards are close to the port of shipment a little more. Despite increased packing costs, and these must ultimately increase with the higher wages that have to be paid and the increase already noticeable in the cost of boxes, etc., the exporter will this year be assured of a return for his fruit, and this alone will be added inducement for the average grower to ship. It will also have an influence on the price being paid for similar quality fruit for the New Zealand market.

Prior to the announcement of the guarantee certain growers had sold at a lower figure than 5/6 at the orchard, but 5/6 will now represent the minimum. In Otago certain sales for export have been made at 6/9 and 7/-, f.o.b., but as the grower is assured of 6/6 from the Government, with the chance of getting another 1/- if the market is right, it is unlikely that any further sales will be effected, unless at enhanced prices.

In addition to the guarantee on export, the Government have set aside the sum of £40,000 to be used on a basis yet to be determined for assistance to growers catering for local markets. This grant is in some way a quid pro quo to the grower for the increased wages bill which has to be met. Unfortunately, unless the money is used as a subsidy to wages, only a certain section of the growers will benefit, i.e., the growers of poorer valued varieties and lower grades. Market prices this season—locally—have been well above the average, and the grower of good fruit has secured a return which has not been experienced for many years, so it is unlikely that he will participate in the distribution of the £40,000—on the other hand he is paying the increased wages which have been agreed to. Already some of the packing sheds are realising just what this increase in wages means. It has been quickly reflected in the wage bill, and in the 1938 season will operate on production costs as well. It will be interesting to learn just what method is to be used for the distribution of this money, and we hope to report on that in our next month's notes.

It is already evident that growers are beginning to appreciate that high wages will force them to mechanise their properties to a much greater extent than has been attempted in the past. This season a large number of mechanical graders have been installed, and this principle will be carried out probably in the orchard work when production commences for the 1938 crop. This will be essential if the industry is to really get any benefit from the slight increase in the Guarantee.

TESTING PEACH SEEDS.

New Method Reported.

Geneva, N.Y., Oct. 2.—A method for testing the germination of Peach seeds that will give the nurseryman a reliable check on his seed supply within seven days, as contrasted with a delay of ten to twelve weeks by the usual methods, is announced by Dr. H. B. Tukey and M. S. Barrett, of the State Experiment Station at Geneva, in "New York Packer."

The method was developed as an emergency measure to aid nurserymen in meeting the demand for Peach trees made acute by a shortage of good seed.

"Nurserymen commonly plant Peach seed in the field in the fall of the year and bud the resulting Peach seedlings to the desired variety the following Summer," says Dr. Tukey. "In one instance, fairly typical of a large percentage of the nursery industry, sufficient acreage was planted to Peach pits in the fall of 1933 to produce 200,000 seedlings for propagation purposes, but only 16,000 developed. Some rapid test of Peach seed germination prior to fall planting would, therefore, be of immediate practical aid to the nursery industry."

In common with the seed of other closely related plants, Peach seed requires a period of "after-ripening" before it will germinate, explains Dr. Tukey. This requires ten to twelve weeks with the seed held at temperatures slightly above freezing, which is entirely impractical in testing the current season's seed supply for fall planting. By this new method it is possible to obtain a reliable check on the germination of Peach seed within seven days.

The method consists of removing the embryos from the Peach pits, soaking them in water for several hours, removing the seed coats, sterilising the embryos, and then placing them in sterilised bottles which contain an agar medium. Several thousand seeds from North Carolina, Virginia, Kentucky, Tennessee, California, New York and Japan tested in this way during two seasons gave results which checked closely with the germination of seed from the same sources planted in the field under nursery conditions.

APPLE PIE FAVORITE IN U.S.A.

A recent check of orders in U.S.A. dining cars revealed many interesting facts. Among these was the fact that **Apple pie was the favorite dessert.**

:: :: ::

Australians have a big and as yet undeveloped opportunity for popularising Apple pies. The Apple pies which are so popular in U.S.A. are unknown in Australia.

The popularising of this type of Apple pie would lift the Australian consumption of Apples so as to get rid of our present surplus.

This fact is not as yet appreciated by Australian Apple growers.

HARDIE
HAND MADE
SPRAY HOSE
BURST PROOF
ALL RED
"Every Inch Australian"
OBTAINABLE AT ALL STORES
Made by the Hardie Rubber Coy Ltd
Australia

Hints for Mixing Concrete

Method of Estimating Quantities of Materials Required.

THE QUESTION IS OFTEN ASKED as to how much cement, sand, and metal will be required for a particular job, observes a N.S.W. Department publication on the use of concrete. The table given below, together with a brief explanation, should enable anyone to compute these quantities.

Materials Required for 1 Cubic Yard of Concrete.

Mixture.			Required for 1 cubic yd.		
Cement.	Sand.	Stone.	Cement.	Sand.	Stone.
			Cub. ft.	Cub. ft.	Cub. ft.
1	2	4	5.84	11.88	23.76
1	2.5	4	5.44	14,04	22,14
1	2.5	5	4.76	12.42	24.57
1	3	5	4.52	13.77	22.95
1	3	6	4.00	12.42	24.84
1	3	6.5	3.84	11.88	26.65

An example will perhaps make the matter more clear. If, for instance, it is desired to lay a concrete floor 4 inches thick gauged 1-3-6 in a room 12 feet by 14 feet, the total quantity of concrete required will be 12 by 14 by $\frac{1}{3}$ = 56 cubic feet = approximately 2 cubic yards. From the table of quantitites for a 1-3-6 mix it will be seen that for 1 cubic yard of concrete, the materials required are 4 cubic feet of cement, 12.42 cubic feet of sand, and 24.84 cubic feet of metal. Therefore, for 2 cubic yards, twice these quantities will be required. If, say, 8 cubic yards of concrete were required for a job, the quantities in the table would be multiplied by eight. As a bag of cement contains 1 cubic foot, the quantity of cement required, as computed in cubic feet, is the quantity in bags.

For rendering a bag of cement mixed with two equal bags of sand will cover about 8½ square yards ½ inch thick, and 6½ square yards ¾ in. thick.

GRUBBING
WITH A
"DIGGER" WINCH
A Man can uproot more Trees and Stumps in a Day than he would dig out in Ten Days
Thousands in Use
It earns its Famous LOW PRICE in a Few Days
Write for Catalogue
QUICK MANUFACTURING CO., 75 Penders Street, Thornbury, Victoria

"G.B." Dusts

EFFECTIVE GB DUSTS

"G.B." Sprays

A.P. 50. NICODUST. AZURINE.

MONOHYDRATED COPPER SULPHATE for Celery, Tomato and Potato Blight.

BORDEAUX POWDER for Spraying. Save the bother of mixing Bordeaux Mixture.

COPPER CARBONATE for Dusting and Pickling Seeds and Wheat.

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Being Direct Importers of Hardware, Garden Tools, Implements, Piping and Fittings, enables us to offer lines at the Very Lowest Prices.

Manures, Fodder, Bickford's Arsenate of Lead, and other Spray Materials. Garden Seeds of best quality in stock

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Fruit Trees

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Bud Selection

The FRESHFORD ORCHARDS comprise 60 Acres of bearing Citrus, Stone Fruits, Pears, Apples, Loquats, Quinces, Walnuts, Almonds, Persimmons, etc.

BUD SELECTION is Easy and Natural under these conditions.

CITRUS TREES all worked on Sweet Orange or Seville Stock

BUDDED WALNUTS — The World's Best Commercial Varieties

PEACHES & APRICOTS a Speciality

STANDARD ROSES

CATALOGUE ON APPLICATION. INSPECTION INVITED.

Western Australia

APPLE AND PEAR CROPS AT BRIDGETOWN WIPED OUT BY DISASTROUS HAILSTORM.

This was the Culmination of a Series of Unusual Climatic Disorders.

THE MAJOR DISASTER to Western Australian fruit crops when hail in March wiped out the Bridgetown crop of Apples and Pears was the culmination of a series of troubles which have faced growers since February.

These events are indeed unusual, as Western Australia has been justly famed for its equable climate.

Apples set a good crop on most varieties, the official estimate being a total of 1,400,000 cases, with a further increase if seasonal conditions should prove favorable. In all districts the fruit got an excellent start, and at the end of the year was much better grown than normally. This favorable position continued into February in almost all areas, despite unusually dry conditions. Then a series of climatic disasters began.

A very severe cyclonic storm of the type frequently experienced on the north-west coast was driven down to the fruit growing areas and the wind raged for many hours throughout most of these districts. On Apples the loss appeared to be mainly of large fruit on lightly laden trees, but it has since been apparent that a very substantial measure of blemish also resulted, especially on Cleos.

On Pears the loss varied from 30 per cent. to 100 per cent., according to varieties. Instance after instance could be quoted when the foliage itself on the trees was shredded by the wind.

Then there followed a long period of sustained hot winds which checked and stopped the growth, and, in some instances, actually brought Autumn foliage conditions with the probability that fruit on these trees will not grow further.

Early in March came rains which, although very beneficial, were too late to help the early varieties, but which have created a difficulty in further accelerating maturity on a season which is uniformally acknowledged to be at least a fortnight ahead of normal. Still heavier rains since then have reached a stage when they are responsible for damage instead of improvement. Even with all these difficulties a very heavy crop still remained.

Then hail made its appearance first in a storm which wiped out entirely a strip adjacent to one of the best districts. This in itself was a major disaster for the growers concerned, but fortunately was not extensive.

Disaster at Bridgetown.

Now comes news of an extraordinarily heavy and extensive hailstorm which has cut a path several miles wide right through the heart of the thickest of the Bridgetown orchard area. Trees through this section have not only been denuded of their fruit, but a tremendous amount of damage has been done to the trees themselves and to the orchards in the washing of soils, and stock losses through drowning are also reported. Everyone will sympathise with the growers concerned in this extraordinary and extensive disaster. Growers in the West are wondering what will happen next.

In normal years, once December has past the crop as a whole in the Western State is usually a certainty, subsequent variations of crop prospects being normally only of a minor local character.

This year seasonal conditions throughout Australia appear to have been entirely upset, probably as a result of the reflex of the drought conditions of the last few years, which have been so specially severe in the pastoral areas.

South Australian Cold Stores Ltd.

APPLE AND PEAR STORAGE.

EXPORT FRUIT RAILED DIRECT TO SHIPS IN INSULATED VANS

CENT. 3030. MILE END, S.A. CENT. 3030.

"It's more profitable to put a One Shilling Plant into a Five Shilling hole than to put a Five Shilling Plant into a One Shilling Hole,"

Says an eminent American Botanist

HE IS RIGHT TOO!

It's tragic to put good plants into soil infected with disease and pests.

STERILISE YOUR . . . SOIL WITH KILL-A-MITE "Coarse Grade"

The World's most efficient MANURIAL Insecticide and Fungicide

And Dust them Afterwards with KILL-A-MITE "Superfine Grade"

PROMOTES GROWTH.

RESTORES JADED PLANTS.

REVIVES FADED LAWNS.

Positively kills ANTS, Cabbage Grubs, Aphis, Thrips, Cutworms, Slugs, Red Spiders, Snails, Slaters (Wood Lice), Silverfish, Lucerne Flea, Eel Worm, Bulbmite, Canarymite, Codlin Moth, Woolly Aphis, Borers, Beetles, Cockchafers, Harlequin Bugs, and most of the pests and Diseases of Soil and Plant.

"COARSE GRADE" for Pests and Diseases of the Soil.
"SUPERFINE GRADE," for dusting Flowers, Vegetables, Trees & Shrubs, 7 lbs. 1/6, 28 lbs. 4/-, 56 lbs. 7/6, 112 lbs. 14 6, ex store, Melbourne.
Obtainable in all States of the Commonwealth.

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D. G. Wills (Sydney) Ltd., 661 George Street, Sydney, N.S.W.

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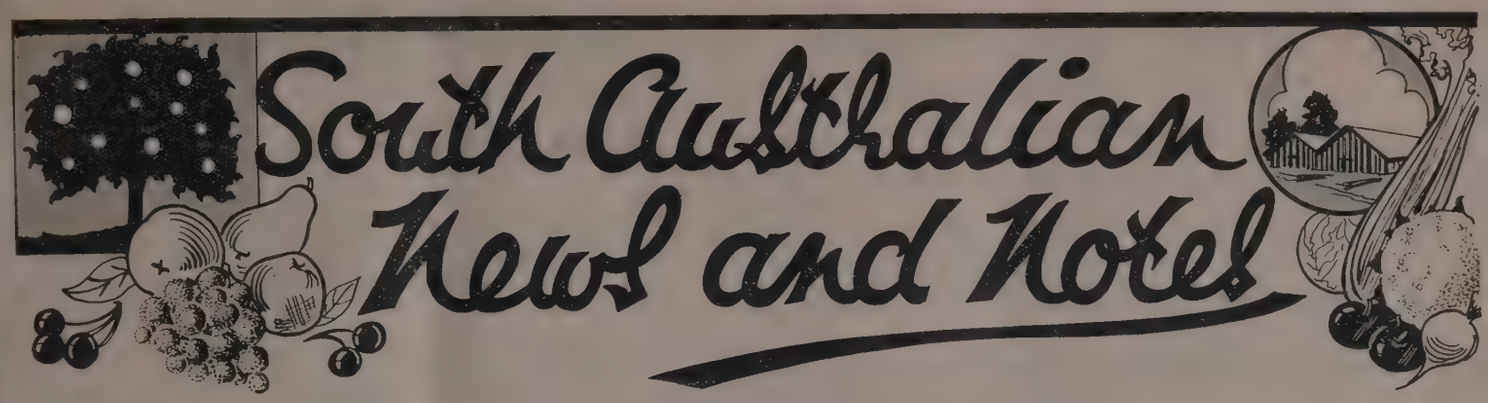
South Australia:
P. S. Teesdale Smith, Hayward Building, Grenfell Street, Adelaide, S.A.

Western Australia:
W. C. Thomas, Thomas Agency, Alliance Building, 96 St. Georges Terrace, Perth, W.A



Executive Meeting

THE MONTHLY MEETING was held on Friday, March 19, when Mr. Hobbs presided and the following members were present: — Messrs. H. N. Wicks, R. A. Cramond, F. A. Wicks, G. Schultz, C. H. Ragless, G. Jennings, H. B. Robson, R. Hunter, L. J. Wicks, J. Turner, E. Giles, F. C. Staniford, W. J. Bishop, G. J. Strange, T. Playford, M.P., G. Pitt. Apologies from Messrs. Hughes, Ridley, Randell, Walker, C. Pitt, Schache, C. W. Giles and H. N. Western.

Mr. A. G. Strickland, Chief Horticultural Instructor, reported that in connection with the proposed amendments to the Grading Regulations dealing with the prevention of the sale of immature fruit, he had recommended the adoption of the amendments, subject to the deletion of "Apples and Pears."

This matter received considerable discussion, and the wisdom of such deletion was questioned. It was decided to ask that the matter be deferred until further consideration be given to it.

Mr. Hemming, of South Eastern Potato Growers' Association wrote stating that he hoped to meet Mr. Collett at a meeting of the Federal Potato Advisory Council at Melbourne on March 23.

Secretary reported that the Association was unable to send Mr. Collett over, owing to expense, Mr. Hemming had been asked to support any movement which may be made for ensuring stability of marketing Potatoes in all the States.

Secretary reported that Mr. McRostie intended visiting S.A. early in April, and that meetings of Celery, Tomato and Cherry growers had been arranged. These meetings are now looked forward to as an annual event, as growers appreciate getting information about the marketing in Melbourne, from their own representative, who has now had many years' experience.

Mr. Hobbs reported on the activities of the Celery Section in their endeavors to obtain fair prices, and increase consumption in the Eastern States by improved advertising methods. Unfortunately, the recent humid weather conditions in South Australia, had somewhat affected the quality of the Celery.

The increase of cost of crates and cases received attention and a subcommittee of chairman of sections interested in exporting produce was appointed to consider what steps should be taken to ensure better supply of timber suitable for case making. Mr. Playford, M.P., promised to assist the Committee in any way possible.

At the first of a series of educational meetings which was held on 17th inst., Mr. Strickland had given a very interesting address on "Some Factors Affecting Fruit Setting." Regret was expressed that more members had not been present to receive the very informative remarks given, and to have seen the slides which so well illustrated the wonders of this mysterious operation in fruit culture.

It was decided to give greater publicity to these lectures in the future, hoping that a better response would result.

Secretary reported that the resolutions passed at the Interstate Conference last October had been sent to the Ministers of Agriculture in all States.

The motion relating to the Registration of Nurseries was discussed, and being of Federal importance, it was thought that it should be considered by the Federal authorities. It was decided that we ask Mr. Blesing, Minister of Agriculture, to bring this important matter before the new Conference of State Ministers of Agriculture.

Celery Committee

THE Celery Section Committee has been giving the matter of interstate marketing its attention. Recently, two committeemen, Geo. Strange (chairman) and M. Packer visited the Melbourne, Sydney and Brisbane markets. They were accompanied by Mr. C. W. McRostie (Melbourne representative).

For some time it has been felt that Brisbane should absorb a much greater quantity of South Australian Celery, and it is the desire of the Committee to endeavor to place the market on a solid basis this year. The Committee has received certain recommendations in regard to Brisbane, and generally speaking the marketing plan which will be adopted for the year will be somewhat similar to that which applies to Sydney, with the exception that there will be some provision to prevent the market from being overloaded.

The Committee has decided to appoint four agents in the Brisbane Market, and a representative has been appointed. After leaving Brisbane, the Sydney market was investigated, and ultimately the Committee decided, on the recommendation of the delegates, to appoint an additional four agents, and this policy appears to be wise in view of the annual increase in supplies to the Sydney Market. The agents in Sydney have again agreed to contribute to the Association Advertising Fund. As far as Melbourne is concerned, very little alteration is proposed. Here again the agents have agreed to help with the advertising expenditure, and it is likely that some of the smaller handlers will not be reappointed this year.

The Committee is now considering several advertising schemes. There is no doubt that the markets in the Eastern States have by no means reached absorption capacity, and if advertising is continued with the three markets should show a further increase during the forthcoming season.

Mr. C. W. McRostie, the Association Melbourne representative, will arrive in Adelaide on April 1. During his stay he will address several meetings of growers, and also see as many growers individually as possible. It is not possible for the representative to see every grower interested in interstate marketing, but if any grower especially wishes to see Mr. McRostie respecting his own particular problems, Mr. Kimber will be pleased to arrange for Mr. McRostie to call on the grower concerned.

Mr. Geo. Strange has been re-elected chairman of the Celery Section Committee after having served one year in that position. Mr. Strange is also a delegate to the Central Executive of the Association. After having been a member of the Celery Section Committee for a number of years, Mr. L. J. Wicks has resigned. For most of the time he was on the Committee he occupied the position of chairman, during his occupancy of the chair, Mr. Wicks did a tremendous amount of splendid work for Celery growers, and his departure from the Committee is a matter of regret.

Seed Potatoes.

The Fruitgrowers and Market Gardeners' Society Ltd., of 288a Rundle Street, Adelaide, has pleasure in announcing that it has been appointed Selling Agent by PITT BROS. of ASHBOURNE, and would appreciate your enquiries with reference to Seed Potatoes for 1937.

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All Types of Insurance.

W. J. KIMBER,
Secty., F. & M.G. S. Ltd.

NOTICES

Executive Meeting.

The monthly meeting will be held on Friday, April 30, 1937, at 10.30 a.m.

Business.

Reports will be given of the meetings held during Mr. McRostie's recent visit.

Suggestions welcomed re subjects for discussion at next meeting.

Any other business.

N. T. HOBBS, President.
W. J. KIMBER, Secretary.

Marion Branch.

The usual monthly meeting will be held on Wednesday, May 5, 1937, at 8 p.m., in Sturt Hall.

All members invited to attend.

I. R. ADAMS, President.
J. R. DUNCAN, Hon. Sec.

CELERY EXPORT SEASON.

THE CELERY SECTION COMMITTEE deputed Messrs. G. J. Strange and M. Packer to visit the Eastern States recently to endeavor to make improvements in marketing methods. In this effort they were very successful, and they reported to the Committee on their return.

In Sydney they conferred with Mr. D. G. Wills, who has acted as our representative for several years, and it was decided to recommend the addition to our list of agents, four more: Messrs. J. Hawke, Mitchell & Galvon, Robert G. Clarke, and E. W. Parker & Sons.

Advertising methods were discussed and alterations are likely to be made, whereby country districts will be canvassed. Distribution of supplies is to receive closer attention, and growers are asked to assist in this.

The delegates visited Brisbane and they were very cordially received, Mr. Flewell-Smith, manager of Committee of Direction, proved a real friend

(Continued on page 18.)

Setting of Fruit

THE FIRST OF A SERIES of quarterly educational meetings was held at Association's Board Room, on March 17, when there was not a large attendance, a fact much regretted by the chairman, Mr. N. T. Hobbs, when introducing Mr. A. G. Strickland. Chief Horticultural Instructor, who spoke on "The Setting of Fruit," a subject of much importance to the fruitgrowers, who from experience knows that a profuse flowering does not always result in a heavy crop.

There are many factors controlling fruit setting, some the grower cannot assist, but there are some in which he can. To get one Apple from twenty flowers would give a good crop, on the other hand there are varieties a setting of one in three would be necessary.

Mr. Strickland quoted some astounding figures connected with the evaporation of moisture from a tree during a hot day. A good supply of water previous to flowering was most necessary, and two main food requisites during the flowering were nitrogen and carbohydrates. The former has a very marked effect on setting.

Cover crops should be ploughed in early, so that the resultant nitrogen should be available to the trees. Weather, frost and hail, are beyond control, but there are many ways in which an observant grower can assist in securing the setting of fruit.

The Value of Bees.

Mr. Strickland gave much praise to the wonderful assistance given to the orchardist by the bee, and advised growers to try to get apiarists to place their hives near their orchards, or better still, to keep many swarms themselves!

By means of suitable lantern views, Mr. Strickland illustrated his remarks, thus adding considerably to the educational value. He was warmly thanked, and promised to assist in any way he could, the effort of the Association in providing lectures, etc., of a helpful nature.

The next address will be given by Mr. A. G. Edquist, of the Education Department, who will speak on "The Origin of Soils." The date will be Wednesday, May 19.

CELERY EXPORT SEASON-

(Continued from page 17).

nd adviser. The delegates were of ie opinion that the consumption of elery in Queensland could be marially increased if agents were appointed, and a representative chosen watch growers' interests. The Committee has now appointed the following agents: Messrs. A. J. Carter, O.D., A. P. Miller and Robsons Pty. td., with Mr. Hansford Reeve, representative.

A price-fixing committee was also ppointed, and growers are asked to ssist in keeping the Brisbane market supplied regularly.

QUARTERLY EDUCATIONAL MEETING.

Members are asked to make a special effort to attend the next Educational meeting which will be held at the Association's Board Room on Wednesday, May 19, 1937, at 8 p.m., when Mr. A. G. Edquist, of the Education Department, will deliver an address on "The Formation of Soils."

This is a very interesting subject and will be well worth hearing.

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South Australia

MID-MURRAY NOTES

REFERENDUM RESULTS DISAPPOINTING — HORSHAM FARMERS VISIT RENMARK — DIPPING AND PROCESSING SULTANAS & CURRANTS — IRRIGATION — COVER CROPS

(By Our Correspondent.)

RENMARK, March 21, 1937.

A GREAT DISAPPOINTMENT has come over the dried fruits industry from the result of the Referendum. The marketing clause may have been attributed to ignorance on the part of the average elector, had it not been for the astonishing figures shown on the aviation issue..

The whole thing clearly shows that the Australian public delights to be "agin" any Government when it asks to be allowed additional facilities to govern the country. We have now had twenty questions submitted for referendum, only three of which have been passed, two regarding handing over State financial obligations to the Commonwealth, and the third to curtail the life of the Senate.

Although every facility was given the elector for studying the marketing issue, the amount of ignorance displayed was appalling, even among intelligent city business men. It simply did not concern the city dweller, so he did not bother to make himself conversant with it, and just a day before the election a prominent business man asked the writer "what it was all about." It seems that the primary producer is looked upon as fair game by the rest of the community, and is expected to take world prices for his produce, while every secondary industry is protected by high tariff barriers and the worker is protected by arbitration awards to conform with the Australian standard of living, besides making an attempt to force a 40-hour week as a standard. The average primary producer is sometimes obliged to work almost double those hours with no guaranteed price for his produce.

The lack of unity between the different branches of primary producers is its greatest drawback as a political weapon. In endeavoring to bring about the necessary reforms which will guarantee to the primary producer an Australian standard of living, the primary producer must speak as one voice.

Early in March a party of 21 Horsham farmers visited South Australia and called at Renmark as part of their itinerary. The visit was inaugurated by the Horsham Agricultural Society, and has proved such an outstanding success that a return visit is being organised to take a party of fruitgrowers from Renmark through Victoria, in May, including the Wimmera district as part of the schedule.

An interchange of ideas between wheat growers, stock breeders and fruit growers and dairy farmers must help to cement a friendship formed on a holiday jaunt, and we are looking forward to renewing acquaintances in May.

The party was given a civic welcome, and a complimentary dinner at the Renmark Hotel at which they were welcomed by the Mayor (Mr. S. A. James), Mr. C. Katekar (chairman Renmark Irrigation Trust), Mr. F. H. Edwards (vice-chairman Renmark Growers' Co-op. Distillery), Mr. H. D. Howie (chairman Renmark Fruit Growers' Co-op.), H. G. Evans (chairman Renmark Show Society), W. Dridan.

The visitors were shown over the pumping units supplying irrigation water, the packing house of the Renmark Fruit Growers' Co-op., the Renmark Growers' Distillery, where they were able to sample some of the choice wines and brandy manufactured by this company.

For the past three weeks, the weather has been all that could be desired for drying fruit, and the packing houses have been kept extremely busy to keep pace with deliveries. The Renmark Fruit Growers' Co-op. have been receiving about two hundred tons of Currants and Sultanas per day, and have been obliged to work two shifts per day. By working double shifts they have been able to clean and process sufficient fruit to keep growers supplied with sweat boxes. This company owns about 21,000 sweat boxes (these are used by growers for delivering fruit from the drying greens to the packing house).

By processing two thousand sweat boxes of fruit per day the outgoing and incoming sweat boxes are fairly well balanced.

Currants have been of a good two-crown standard throughout the season up to the present, with some outstanding three-crown quality. Early delivery of Sultanas have shown a small tonnage of four-crown fruit with a fairly good range of three-crown, but the later deliveries will probably be in the two and one-crown. The quality of many of the Sultanas have been spoiled by untimely rains while still on the vines. Many of the compact bunches developing mould, while the straggly open bunches, although developing no mould, contained many split berries which dried on the bunches.

In consequence of these dark berries, dipping temperatures have had to be higher than in other years, the purpose being to darken the good berries to such an extent that there would not be a marked difference in shade between the finished product and the prematurely dried berries.

Vinegar flies have been very bad this year, both on the rain-damaged fruit and in places where rack tiers are close together. Owing to the climatic conditions being favorable to their breeding rapidly a certain amount of damage has been caused. They can be shifted by smoke or sulphur fumes, but breeding is so rapid that fruit has to be watched continuously for the first few days after being dipped. As soon as the fruit begins to wilt, they leave the fruit and move on to freshly dipped fruit and infect the berries under the racks if they are not drawn out and placed in the sun.

A special irrigation

is now in progress for citrus fruits, late wine Grapes and Doradillos, and where the rush of harvesting is over, growers will avail themselves of this opportunity of planting their cover crops. There is no doubt that when cover crops are planted in March they mature sufficiently by late June and July to be ploughed under, thus allowing some months to break down and create the formation of humus in the soil so that bacterial activity will be stimulated in early Spring. Many growers who have sustained heavy damage from rain attribute their loss to the planting of cover crops year

er year, but the writer has made a rly comprehensive search for data this matter and can find no subntiation to the above theory.

One of the least damaged crops n was produced on land heavily pped every year with green ma-re, and balanced with heavy dress-s of phosphates. There may, how-r, be some foundation to the theory the nitrogen created by cover crops **not balanced adequately with phos-ates or potash.**

if the nitrogen factor predominates fruit naturally suffers in times of verse climatic conditions at a time en the fruit is in the ripening ge.

Frost damaged vines suffered avily from rain damage and it ems to me that the vine sustained severe shock in early Spring and is not constitutionally strong enough withstand a further shock from in and humid conditions. The least maged fruit came from vigorous es carrying a heavy crop, vines ich have been well cared for and ve not had a setback during the ole time from early Spring right to maturity of the fruit.

Each year different problems crop r, the circumstances of which have exact parallel, and so our experi-ce widens.—"Nemo."

WONDERFUL YIELD OF POTATOES.

At the annual show held at Mt. mpass, recently arranged by the al branch of the Agricultural reau, there was a wonderful dis-ay of Potatoes made by local boys d youths in a competition for the eatest weight of Potatoes raised om one pound of seed.

The variety was Carmen, and the ed was provided by Messrs. Pitt ros., of Ashbourne, who are noted r the fine crops of Potatoes produced their fertile river flats.

From 11 Potatoes weighing one ound. Master Linton Jacobs dug 603½ ounds of Potatoes. This yield sur-asses any hitherto obtained in these mpetitions, which are held annu-ly, and create great interest among otato growers in the southern dis-icts.

The competitions have also proved at the local seed used far surpasses at obtained from any other sources.

The competitions are supervised by r. Orchard, District Inspector, who erifies correctness of the planting d results. The latter are really henomenal and testify to the fer-ility of the swamplands of Mt. Com-ass, and the keen attention and in-ustry of the young grower.

The Potatoes are on view at the remises of the Fruitgrowers' and arket Gardeners' Society, which has en appointed by Messrs. Pitt Bros. s their sole agent for sale of seed otatoes. Those interested in Potato rowing should not fail to see this onderful display of Potatoes.

The South Australian Fruit Marketing Association Inc.

The monthly meeting of the Executive of the S.A.F.M.A. was held at Adelaide on March 19, 1937.

There were present H. J. Bishop (chairman), J. S. Hammat, R. A. Cramond, H. J. Bishop, P. R. B. Searcy, H. N. Wicks, A. R. Willsmore, T. Playford, M. G. Basey, E. S. Mason, J. B. Randell, and the Secretary. Apologies received from Messrs. A. G. Strickland, S. M. James, F. B. James.

Apple and Pear Council Executive Committee Meeting: Telegram was received from the Apple and Pear Council stating that the Minister of Commerce desired a conference with the Executive Committee of the Council in Sydney on Wednesday, 24th instant, to discuss freight rates and the continuance of the A.O.T.A., and asking the Association to attend or arrange proxy.

Mr. H. J. Bishop stated that it would be impossible for him to attend, and Mr. J. B. Mills was appointed proxy.

Wrapping Paper: The Sub-Committee appointed, viz., Messrs. Bishop, Pope, Searcy, Wicks, Vickers, W. Gregory at the last meeting, to choose a design for printed wrappers for Apples and Pears, reported that they had held a meeting, and after a lengthy discussion the following recommendation was made:—

"That at a reasonable cost we believe a printed wrapper is desirable, the wrapper to be designed as a common brand for Australia, and we recommend a map of Australia. The brand not to be more than 2¼ inches."

It was further recommended:—

"That two designs be obtained : (a) Map of Australia not showing the separate States. (b) Map of Australia showing separate States (with the word 'Australia' printed across in each case)."

It is also recommended:—

"That a common colored paper be used for all fruits, and the Committee are impressed with the color of paper as per sample submitted, viz., pale yellow printed in light green."

Sample of the suggested paper was submitted and Mr. Randell moved, and Mr. Hammat seconded:—

"That the recommendation of the Sub-Committee be endorsed and sent on together with the designs to the Australian Apple and Pear Export Council."

Liberal League Primary Producers' Conference: Mr. T. Playford stated that in regard to the appointment of Mr. J. B. Randell and himself as the delegates to this Conference, that this would be a good opportunity to bring up any matter that would be beneficial to the industry. The Conference would be held next month and members were asked to bring forward any matters they considered should be discussed.

Correspondence: Letter from Mr. Frisby Smith advising a dissolution of partnership of the firm of Messrs. Shierlaw, Frisby Smith, and Romilly Harry, and a new firm of Messrs. Frisby Smith and Isaachsen, and that matters as far as the Association is concerned that were in the hands of the old firm, have been taken over by the new firm of Frisby Smith and Isaachsen, pending other instructions.

Letter dated March 2 from Mr. A. G. Strickland, Chief Horticulturist, advising that in the proposed amendments to the Fruit and Vegetable Grading Regulations to prevent the sale of immature fruit, Apples and Pears had been deleted from the amendments.

Correspondence was received from the Apple and Pear Export Council, quoting particulars of letter received from Department of Commerce, re trade in Continental countries. Enclosing copy of letter from the O.S.R.A., Sydney, to the Apple and Pear Export Council, re self-registering thermometers on vessels carrying fruit.

Also received report of the Government Produce Department for the year ended June 30, 1936. Report of the Chief Horticultural Instructor for year ended June 30, 1936.

Research Sub-Committee: Matters discussed at the meeting of the Research Sub-Committee were in regard to manuring and codlin moth.

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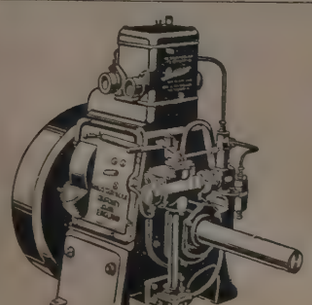

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9-Tyne, with pole, 2-horse, trees and neckyoke, £12/15/-.
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Cold Storage In Australasia

Mould Control in Citrus Fruits

HYGIENIC AND CAREFUL HANDLING METHODS IN ORCHARD, IN TRANSIT AND IN PACKING HOUSES ESSENTIAL — EVEN ONE MOULDY ORANGE CAN CONTAMINATE THE ATMOSPHERE IN A PACKING HOUSE AND RELEASE DESTRUCTIVE SPORES — THE "RUB" TYPE OF WOUND IS MOST PROLIFIC SOURCE OF INFECTION — STERILISED FRUIT IS SUBJECT TO REINFECTION FROM MOULD IN THE ATMOSPHERE.

(From the Commonwealth Council for Scientific and Industrial Research, and the Departments of Agriculture of N.S.W., Victoria, and South Australia in Co-operation.)

TOWARDS THE CLOSE OF 1935 a survey of the larger citrus packing houses of N.S.W., Victoria, and S. Australia, was made as part of the programme of citrus preservation investigations now being carried out by the Council for Scientific and Industrial Research with the co-operation of the various State Departments of Agriculture.

The survey disclosed that methods employed in the handling of the fruit and in the maintenance of shed hygiene do not generally conform with accepted standards, and are directly responsible for wastage losses, not only in export fruit, but also during the comparatively short period in which fruit is held for local market. The purpose of this report is to bring to the notice of the shed management some of the more obvious faults of everyday occurrence, together with suggestions for their elimination.

Types of Wastage.

Wastage in citrus fruits marketed locally is chiefly due to green mould (penicillium digitatum) and to a lesser extent to blue mould (Penicillum italicum). These moulds are familiar to everyone engaged in the citrus industry and need no description. Blue mould is said to be capable of infecting fruit by contact even if the rind is unbroken, but both blue and green moulds gain access to the fruit usually through wounds. The rind is the normal barrier to infection and when wounding occurs, as so frequently happens, within the packing shed, the path for infection is provided.

The Penicillium moulds are fungal parasites which are disseminated in the atmosphere by means of spores (the equivalent of seeds in the higher plants). The cloud of dust that arises from a mouldy Orange when disturbed represents myriads of spores, each one of which is capable of producing wastage if it happens to lodge within the wounded tissue of the rind.

The presence of one mouldy Orange is sufficient to contaminate the atmosphere of a packing shed.

It will, therefore, be obvious that the method of storing mouldy fruit in bins within the shed, until such time as it is disposed of, is likely to result in all wounded fruits being exposed to heavily contaminated atmospheres.

It will be appreciated that three conditions are necessary before mould wastage can occur—

1. The rind must be injured.
2. Mould must be present in the form of spores in the atmosphere.
3. Conditions of storage must be suitable for development of the rot.

If any of these factors could be entirely eliminated, mould wastage would be reduced to a minimum.

The reduction of all three factors to a minimum should be attempted, and it is proposed to show in turn just what is the present status of the industry in regard to each and what precautions may be adopted to ensure that wastage may be kept within reasonable limits in the future.

When fruit is exported overseas or held locally in cool storage, wastage is due in part to the Penicillium moulds above described and, in addition, to certain non-parasitic injuries to the rind. The latter take the form of sunken or unsunken discolored areas of unsightly appearance, and frequently become mould infected when held in store for any length of time. The majority of the blemishes occurring in cool store come within the category of "Storage Spot."

There are indications that "Storage Spot" can be controlled at least in part by the suitable adjustment of storage temperature, but since Oranges from some districts are more susceptible to the trouble than those from other areas, it follows that the treatment which they receive prior to storage is of importance.

1. **Injury to the Rind.**
   (a) **From Picking to the Packing Shed.**

Care in the handling of citrus fruits has been emphasised on numerous occasions, and no doubt many of the suggestions for improvement have been put into practice for longer or shorter periods with varying success. It is essential that all suggestions should be practised all the time if noteworthy results are to be obtained.

Citrus fruits are initially subjected to wounding at picking time. The practice of pulling is usually detrimental to the storage of the fruit, and is frequently responsible for extensive tearing of the rind in the vicinity of the button. At the same time, it is not suggested that this method should be universally condemned, since the main consideration is the length of time for which the fruit is required to be kept.

Pulling is a reasonable and economic practice where Oranges are to be consumed within a week, but beyond that time, especially when atmospheric conditions are favorable for mould growth, the grower stands to lose far more through mould wastage than the cost incurred by picking with **gloves and clippers.** Where the latter method is employed it is necessary that the gloves should be in good condition and particular care must be taken to avoid injury to the rind by the careless handling of the clippers.

It is important to see the **aprons** are in good order and free of sand, grit, and other foreign matter. The presence of abrasive particles in the picking apron can cause quite an amount of damage which will be augmented by transference with the fruit to the picking boxes.

Investigations into the sources of wounding have shown that with normal care the amount of damage inflicted up to the time the fruit is placed in the picking boxes is comparatively slight.

The most important period is from this point until the fruit is delivered at the packing house. This does not mean, however, that handling at the shed is a relatively unimportant matter, as will be subsequently seen.

It is quite essential that the **picking box** be well constructed and free from splinters and protruding nail heads and points. The internal surfaces of the box should be smooth finished to avoid friction with the fruit during transport. If boxes complying with these specifications are in use, it is still more necessary to see that they are maintained in the same condition.

Both the life of the box and its efficiency are affected by the manner in which it is handled and employees should be made acquainted with this aspect of the problem.

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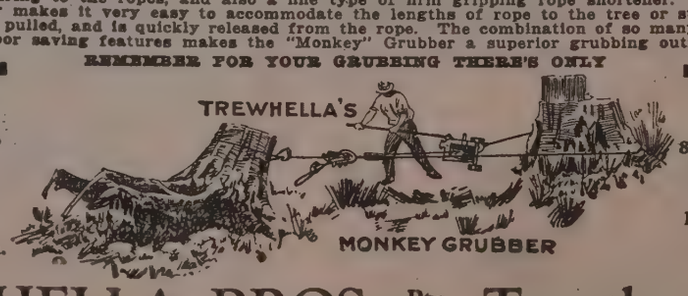

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The common method of laying out the picking boxes on the ground prior to picking is to be deprecated. The practice invariably introduces soil to the box and its presence more than neutralises the care and expense bestowed upon a well-made picking box.

It is not a difficult matter to provide a couple of lengths of 3 in. x 1 in. timber upon which the picking boxes may be placed.

Alternatively, bags may be spread beneath the boxes to prevent the ingress of sand. In U.S.A. it is usual for pickers to be provided with a small whisk broom by means of which the boxes may be brushed clean before picking commences.

A very common source of wounding is that due to overloading of picking boxes.

A clear margin of at least one inch should be allowed in every case to prevent bruising and crushing by the overlying boxes. Movement of the fruit in the case should be reduced to an absolute minimum during transport, and this may only be done by having regard to the size of the load, efficiency of springing, and the avoidance of rapid travel where the road surface is imperfect.

A very effective method of reducing the "rub" type of injury which results from friction between fruit and box is to place a thin layer of woodwool in the box prior to picking. This practice also serves to protect the fruit from gritty particles, small pieces of dead wood, etc., which find their way to the bottom of the case during transport. Normal care should be exercised when loading the fruit on the truck and similarly during unloading at the shed.

The use of a tarpaulin is advisable to keep the load steady and the fruit clean.

(b) The Packing Shed.

The supervision of handling methods up to the time fruit is delivered at the packing house may be thought to devolve upon the grower except where gang pickers are provided by the shed organisation. This is not entirely the case, since **the reputation of the shed product depends in large measure upon the history of the fruit in the early handling stages.**

It is, therefore, incumbent upon the packing house management to ensure both by publicity and personal instruction, that the methods advocated in this report are generally practised.

At the same time, it must be realised that packing house managers are not in a position to offer advice unless operations under their immediate control are above reproach, and this unfortunately is not always the case.

The modern citrus packing house should be maintained in as scrupulously clean condition as is any other establishment handling food products for human consumption, and this not for mere outward form as will be seen later. Apart from this aspect, great care should be paid to the individual units of the shed equipment which, if allowed to deteriorate, may easily be the cause of monetary loss many times in excess of the value of the unit.

Probably the most important part of the entire outfit is

the hopper or feeder,

into which the fruit is tipped prior to passing through the plant. The hopper is commonly protected both on the floor and sides to lessen injury. Sponge rubber is frequently used as the protective agent, but since its period of usefulness is not indefinite it is quite common to see unprotected tack heads standing well out from the surface of the covering material. Many instances could be quoted of dangerous imperfections in this unit.

The object of this report, however, is not a critical review of existing conditions, but rather to make constructive suggestions for improvement. Most of the faults observed are not due to negligence on the part of the management, but rather to an incomplete understanding of the very serious danger which they constitute, and once this is fully realised an intelligent application of the ideas outlined herein will resut in the elimination of the obvious points of wounding.

It is difficult to avoid the accumulation of sand and dead twigs on the floor of the hopper, since this is transferred with the fruit, and the presence of such material, as is the case with the field box, neutralises the benefits which would otherwise be derived from the padded floor.

For this reason it is suggested that the floor of the hopper should consist of a series of parallel steel bars protected by tubular rubber of suitable thickness.

From the hopper the fruit passes in turn through **a soaking tank,** over cleansing brushes, and then through a second tank containing a preservative solution of some type. Quite a number of cleansing agents are in use, and the temperature of the solution depends upon local preference. Within reason, the higher the temperature the more efficient is the cleasning effect and immersion of fruit for five minutes at 100 deg. F. must be considered safe under normal conditions. In fact, for maximum efficiency, both with regard to cleansing and sterilisation, a

bath temperature of 110 deg. F.

can be safely recommended except in the case of very early fruit and fruit processed towards the end of the season, in which case some rind browning may occur. The provision of thermostatic control of the solution temperature is desirable.

The rind of the Orange is readily injured by contact with **dry brushes,** and it is necessary to see that these are sprayed for at least five minutes before scrubbing is commenced. Injury of this type is not visible to the naked eye, but becomes apparent on the application of dyes to the surface of the fruit.

After leaving the tanks the fruit is drained free of excess moisture and dried either in an air tunnel or by means of **towelling.** The latter method is not satisfactory, partly because the towelling rapidly becomes saturated when it is no longer efficient, and partly on hygienic grounds, since an unlimited supply of towelling would be required if fresh material were to be used frequently.

Wherever the fruit passes along by means of a moving conveyor, e.g., in the air tunnel, there is a tendency for it to rub along the sides of the plant. This effect is magnified by the rotation of rollers.

Wounding may be eliminated by frequent inspection, and the sand-papering of roughened surfaces or preferably by the provision of a rubber flap on either side along the entire length of the conveyor.

Leaving the dryer the fruit is usually polished, graded and sized. These operations cause but little injury to the fruit if the units are maintained in good order. In some types of sizer the drop into the bins is excessive, a fault which may be detected by the presence of oil stain on the canvas.

A suitable method of joining up the separate units of the shed equipment does not appear to have been, as yet, evolved. In many cases the junction is fashioned from sheet galvanised iron, and while this provides satisfactory service for some time, it tends eventually to lift at the edge and is then responsible for a large amount of wounding.

When Oranges are wounded at any point in the plant, a small amount of oily exudate is deposited which accumulates dust. Repetition of the process builds up a series of sharp excrescences known as "dirt knobs." These may be removed by scraping with a blunt instrument.

A daily inspection

of the shed plant is strongly advocated and may be quickly and effectively carried out by running the hands carefully along the entire route traversed by the fruit. This procedure adds very little to the working cost, but will be the means of saving money for the shed management and for the grower.

The following figures, derived from an investigation into the sources of wounding carried out by the Citrus Preservation Technical Committee in Australia, indicate the extent of wounding in Oranges at three points, viz., during picking, during transport to shed, and in passage through the shed plant. Wounds were rendered conspicuous by immersing the fruit in separate solutions of tannin and ferric chloride when even minute abrasions were indicated by a black deposit within the affected area.

	Clipper Cut.	Chip.	Puncture.	Scratch.	Rub.	Gash.	Total.	% Wounding.
Picking .	4	0	2	6	12	0	24	19
Transport	0	5	0	0	37	0	42	34
Shed . .	0	12	0	9	32	1	54	43
Total . .	4	17	2	15	81	1	120	96

Case Count—124.

The fruit was picked with gloves and clippers, which probably accounts for the comparatively low percentage of wounding at picking.

The rub type of wound,

which consists in the removal of a more or less extensive circular area of superficial rind tissue, is due to friction with a rough surface. It was responsible for more than half of the total wounding recorded, and is of the type that permits rapid infection since the external walls of the oil glands are removed and penetration by the mould organism via the glands is much more easily accomplished than through intergland tissue.

The fact that only 4 per cent. of the fruit escaped wounding is direct evidence of the necessity for reform in handling methods.

That effective consideration can be given to the matter is shown by a subsequent experiment in which one lug box of fruit was treated as before, one was protected with one and a half ounces of woodwool spread evenly on the floor, while the third was

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Double Furrow

A sturdy, strong plow equipped with reversible discs to enable the operator to plow up to, or away from the trees. Operated by a single lever and with nothing to catch branches of trees. To facilitate the movement of the plow around the orchard the discs are movable and lift clear of the ground.

The steering arms are drop forged from the best mild steel and the main wheels are equipped with ball bearings.

Two medium horses can work this machine all day without tiring. A machine may be obtained for a trial at any time.

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similarly treated with two ounces of woodwool. The result as as follows:—

A.—1¼ oz. Woodwool.

	Clipper Cut.	Chip.	Puncture.	Scratch.	Rub.	Total.	% Wounding.
Picking . .	1	0	4	4	6	15	15
Transport .	0	6	0	5	17	28	28
Total . . .	1	6	4	9	23	43	43

Case Count—100.

B.—2 oz. Woodwool.

	Clipper Cut.	Chip.	Puncture.	Scratch.	Rub.	Total.	% Wounding.
Picking . .	0	0	4	15	4	23	20
Transport .	0	4	0	3	19	26	22
Total . . .	0	4	4	18	23	49	42

Case Count—114.

C.—No Woodwool.

	Clipper Cut.	Chip.	Puncture.	Scratch.	Rub.	Total.	% Wounding.
Picking . .	0	0	6	7	2	15	12.5
Transport	0	6	0	0	47	53	45.5
Total . .	0	6	6	7	49	68	58.

Case Count—116.

The trees from which the fruit was drawn bore a large amount of dead wood, hence the high proportion of scratch at picking. This is a matter for

control by the orchardist,

and if wounding due to this source be omitted, the figures for woodwool (average) and no woodwool are 34.8 per cent. and 58 per cent. respectively. The mere introduction of woodwool reduced wounding by approximately 40 per cent., which represents a very considerable decrease in the number of Oranges that would be susceptible to mould.

A subsequent attempt was made to determine wounding due to shed plant both before and after the elimination of obvious points of injury. The test resulted in a net decrease of 33 per cent., making a total decrease of 73 per cent. in the number of fruits wounded.

These figures demonstrate conclusively that wounding in commercial practice is excessive, and are sufficient recommendation in themselves for the need for radical alteration in present handling methods.

The more common sources of mechanical injury to the fruit may be summarised as follow:—

A. Orchard:

1. Projecting wires in picking bags.
2. Foreign matter in bags and field boxes.
3. Field boxes of rough wood or with projecting nails.
4. Pulled fruit.
5. Overloading of field boxes.
6. Fruit with excessively long stems.
7. Excessive speed of trucks on rough roads.
8. Care in loading fruit on trucks.
9. Tarpaulin cover during transport.

B. Packing Shed.

1. Condition of hopper.
2. Projections of various kinds and at various places in the plant, e.g., dirt knobs, projecting screws and nails.
3. Woodwork with sharp edges and splinters.
4. Sharp edge on conveyor belts.
5. Spinning fruit due to defect in machinery.
6. Unnecessary machinery.
7. Badly neglected sizers.
8. Excessive drop into sizer bins.
9. Excessive bulge on cases.
10. Careless lidding.
11. Broken lids.
12. Box nails dropped into cases of fruit.

(To be continued)

Fire at Doncaster Cool Store

Severe Damage to the Orchardists' Cool Stores

HALF OF BUILDING DESTROYED AND 44,000 CASES OF FRUIT LOST

Damage Estimated at £40,000.

MUCH REGRET will be felt by all associated with the fruit industry because of the losses occasioned by the disastrous fire at the Orchardists' Cool Stores Co. Ltd., Doncaster, on March 26. The loss is estimated at £40,000.

It is estimated that 44,000 cases of fruit, valued at over £16,000, were lost. It is believed that less than half of the fruit destroyed was covered by insurance. Many of the growers will be heavy losers. The store and plant were insured for £40,000.

The Chairman of the company, Mr. J. J. Tully, stated that luckily the flames did not reach the second section of the store, where there is accommodation for 60,000 cases.

Temporary arrangements were immediately made to keep the fans moving, a tractor being used, and emergency supplies of dry ice were brought in to keep down the temperature.

Within 15 hours Messrs. Mitchell & Co., of Footscray, had installed a 38 h.p. Lister engine, and Messrs. Werners had a temporary refrigerating plant in full working order. Keen appreciation is expressed locally for the untiring service of Mr. Dobney (Werner's), and Mr. Milne (of Mitchell and Co.).

Appreciation was also expressed for the many offers of assistance. Sufficient cold storage space has been provided to take care of the crops. Among others, Messrs. Angliss & Co. of Melbourne, rendered assistance, even placing their 40,000 case store at the disposal of the growers.

FIRE AT HARCOURT.

On March 23, Mr. Cecil Chaplin, of Harcourt North, suffered a severe loss when his packing shed and entire contents went up in flames. Included in the loss was a new grader, a quantity of packing material, and about 150 cases of Apples.

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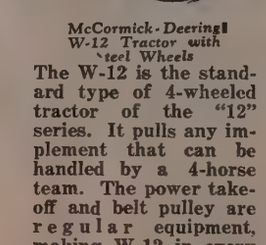

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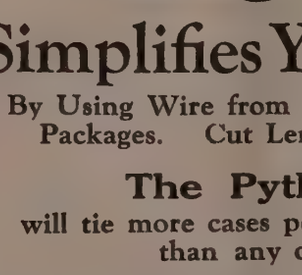

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Victorian News and Notes

Fruit Growing in Harcourt

(By Our Travelling Representative.)

HARCOURT, on the Bendigo line, has been known for over 60 years as the home of the Apple industry in Victoria, as well as the pioneer in exporting this useful commodity to the United Kingdom and Europe. This healthy locality, about 80 miles north of Melbourne, is in the highlands of Central Victoria, with an altitude of 1,100 ft. above sea level, and is served with railways and good roads, thus making it possible to market the products of these gardens the same day as picking.

The orchards of Harcourt are practically surrounded by an oblong of high hills measuring about eight by seven miles, and the traveller standing on this elevation looks down on smaller hills (less steep) and gullies, which are planted with fruit trees, lucerne patches and vegetables, and the beauty of the scene can easily be conveyed to the reader when he remembers that in between the orchards there are stretches of native timber and ornamental trees—with Harcourt Lake towards the northern end.

Every grower has his own cows and fowls, and most growers keep pigs to use up the waste fruits. There are comfortable homesteads, surrounded by gorgeous flower-beds, all situated in convenient positions for watering.

When we consider the mountain air, the productivity of the place, which has reached 1,000,000 cases in a season, its nearness to Bendigo City, and the splendid train service with Melbourne, we are not surprised to hear that the native-born, as well as others, have no wish to depart from these surroundings.

The Harcourt Co-op. Cool Stores, of 86,000 case capacity, under the dry air system, is electrically controlled, and Mr. W. H. Brown, the chief engineer, is well pleased with the keeping of Pears and Apples. Last year 54,647 cases of pre-cooled Pears were exported, and arrived at destinations in good condition, in addition 30,440 were sent to local and interstate markets, making a total of 85,087 cases Pears passing through these stores. A daily record of all conditions, in connection with the working, and despatch of fruit from this store, is entered on a sheet, with inspector's report of same.

The total quantity of fruit—Apples and Pears passing through the store last season was 200,000 cases.

The costs of storage are low, and are worked out according to upkeep of each year.

The directors are Messrs. J. H. Lang (chairman), H. McLean (Secretary), and J. H. Ely.

There are two trading associations, namely "**The Harcourt Fruitgrowers' Progress Association Ltd.**" and "**The Harcourt Fruit Supply Society Ltd.**" The manager of the former is Mr. J. V. Wilkinson, and the directorate is Mr. G. Douglas (chairman), and Messrs. H. M. McLean, R. Hankinson and K. Eagle. This Association supplies all orchard requisites, and caters, through its extensive packing house (which is equipped with every necessary modern appliance), for the export and interstate trade.

The managing director of the latter is Mr. C. Wilson, with the directorate composed of Messrs. J. H. Lang (chairman), M. Winch, J. Fogarty, R. Portwine, T. Code, who act for and supply all orchardists' needs, in a similar manner.

The system of irrigation at Harcourt is quite different from any other in Victoria, races carry the water along the hillsides from the Malmsbury and Upper Coliban reservoirs, some 30 miles distant, this scheme supplies the higher lands and the local reservoir in North Harcourt the lower. The latter can be replenished by the former, and all over supplies from the former in case of rain, are impounded locally.

The cost of water is 1d. per 1,000 gallons and quantity is computed by the height of water in the races above the out-take pipes.

ORCHARD REVIEWS.

Harcourt.

Mr. G. Douglas, whose 40-acre orchard, situated right in the heart of Harcourt, demonstrates through his trees, expert knowledge applied.

The quality of the soil and position are among the best in this fertile valley.

Here the Apple and Pear have found a home that suits them in every way, no out-of-date varieties have been retained.

Crowns, Delicious, Jonathans, Dunns, Cleos., Romes and Stones, are loaded with clean fruit, many of the larger trees carrying 20 bushels each.

Then again, the younger plantings of W.B.C., Packhams, Josephine and Nelis Pears, all showing a good crop, have made wonderful growth, especially the lastnamed two, which at present are carrying superlative crops.

This points to big export lines in the future, for the orchardist must look abroad for markets for his products, and for some years to come (at least) these two varieties should bring good prices, furthermore, these two do not thrive in many Pear districts, as they do here.

Mr. Douglas advocates heavy manuring and cover crops, hard pruning, plenty of drainage, sufficient cultivation, and not too much irrigation, which has been the downfall of many irrigationists.

In addition to fruit culture, grazing and mixed farming are gone into, the manure from the animals being carted to the orchards.

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On the east side of G. Douglas is the property of **J. Smith and Sons.** Sixty acres of this estate is planted with (mostly) Apples and Pears. Two splendid homesteads, facing each other, surrounded with charming flower beds, are occupied by the Smiths; these homes, orchards and packing houses bear ample evidence of systematic management.

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Mr. Harold Symes, Jr., who owns several orchards, aggregating about 85 acres, grows Apples, Pears and Cherries: the latter being the only planting of extent of this variety of fruit in Harcourt (about 10 acres). Mr. Symes is very emphatic re the necessity for cross fertilisation of most varieties of fruits, and is applying this system very thoroughly.

A cool store (just completed) of 7,000 case capacity, under direct expansion system, with packing house, equipped with up-to-date conveniences and appliances, adds to the speeding up necessary for the handling of heavy harvests. This store will probably be added to in the near future.

The Reservoir from Mt. Barker, Harcourt. Messrs. Ford Bros.' orchard is in foreground, local reservoir in the middle distance, Mt. Alexander in the extreme distance.

Mr. E. M. Straw, some time ago purchased W. Ely's old property and has converted it from orchard to permanent pasture. Here is one of the most substantial houses of Victoria. The whole being built of solid granite from the local quarries, and is a masterpiece of masonry.

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Among the orchards, from which the sightseer looks down from the hillside, to the reservoir in Harcourt North, are those of **Messrs. R. W. Bertuch** and his brother's adjoining, then from **B. McMahon's** orchard of mixed fruits, to **E. T. Warren's,** a son of the late J. R. Warren, who for so many years was Victorian representative for Lohmann and Co., of Hamburg, unfortunately the trade barriers have killed this trade, which was one of our best.

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Proceeding north the writer came to **Ford Bros.,** where 85 acres are planted with Apples, Pears and Plums. The staff were gathering "Pond's Seedling" of exceptionally large size (duck eggs) really a dessert quality, and it seems a pity that such a low price has been obtainable this season for such fruits. Looking down from the Plum patch on to the lower lands, quite a panoramic view of the property is obtained, the long rows of green trees of different hue, the homestead, and the packing houses (fitted with appliances for the expeditious handling of the products).

The power sprayers were at work, cultivating was going on, and last, but not least, was the man with the shovel turning the water into various furrows, thus keeping the fruit growing and producing buds for the next season's crop.

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Mr. J. H. Lang, of "Langdale," Harcourt, is well known because of his public spirit and his ability as a speaker at conferences. He has given freely of his time to assist in organising the fruit industry. He takes a keen interest in his 50-acre orchard, being ably assisted by his son, Alan and may possibly be assisted later by his grandson, Cameron.

The visitor to "Langdale" passes under some giant red gum trees, along the valley, when approaching the homesteads, which are sheltered by delightful ornamental trees.

Several "homestead" cows enjoy their cud in this peaceful spot, and a number of fowls hunt around the orchards for any straying insects.

A view in the orchard of Messrs. Ford Bros., Harcourt, showing Mr. F. Ford and staff.

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Apples and Pears of the useful varieties are the principal fruits grown.

Mr. Lang specialising in Winter Nelis Pears, for which variety he predicts a payable future for export.

Winter Nelis does not set well in some localities, but "Langdale" conditions suit it admirably.

:: :: ::

On the opposite side of Faraday-road is the 70-acre orchard of **E. Pritchard and Son:** Apples, Pears and Cherries are the chief fruits grown on "Cairnsfoot," along the drive to the homestead a number of "Rymers" had been "poled," and are now "worked over" to a more suitable variety for export, these new growths looking particularly healthy. Across the drive is a capacious packing house, equipped with all necessary appliances, power driven. Here Pears of superior quality were being packed.

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Messrs. Eagle and Michell, of Central Harcourt, are harvesting a crop of Apples and Pears, which it would be difficult to compute for quantity, the writer believes it would be a fairly good calculation to get within 4,000 bushels of the correct number.

There are 70 acres of large trees, nearly all bearing from medium to heavy crops of fruit. Many of the Pears yielding 20 cases up. So with about 7,000 trees, of six-case average, one can imagine what sort of a crop this reveals. Expert attention to manuring, pruning and cultivation with judicious watering, combined with suitable natural conditions, have brought this about.

Here quite a staff is employed, and as the quality is right, large consignments are leaving daily.

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Mr. F. C. Chaplin, who recently purchased his 16-acre orchard, has done wonderful work here: Jonathans, Crowns, Dunns, Schroeders and Romes and the Pears carrying a tip-top crop, the branches being supported by stakes. A heavy crop of green succulent grass, which will be ploughed under after the fruit is gathered, was also noted. This undergrowth is due to distribution of poultry manure and irrigation.

Mr. Chaplin is also a poultry enthusiast, breeding White Leghorns, Black Leghorns, and O.E. Game, there are some promising youngsters in these breeds, which, if prepared for exhibition, will be amongst the cards.

Portable houses are used, these, with the birds, will be distributed about the orchard again as soon as the picking is finished.

These "free range" birds are all in the pink of condition.

Around the home, with its cement paths, is a very neat flower garden and prolific vegetable patch. In all these ventures, Mrs. Chaplin is a wonderful helpmate, showing keen knowledge and enterprising ability. This happy couple have a growing family.

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The home of **Mr. C. A. Bertuch** is reached after a 10-minute walk east from the railway station, via the Faraday-road. This home is surrounded with flowers and greenery in profusion; 25 acres of the estate are planted with Apples, Pears and Cherries. At the time of writing heavy crops of Dunns, Romes, Delicious and Jonathans were to be seen on the trees: the branches were supported by props.

Manuring with cover crops for turning under is the practice here, the results more than warranting the expense and labor.

Mr. Bertuch's sons assist in all matters connected with the growing and marketing.

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Some of the growers of Harcourt contend that if sufficient manure is spread about the orchard, any amount of greenstuff will grow for ploughing under, without any special sowings. This has been disproved by those who sow peas, beans, etc.

Some orchardists state that sowing peas for cover crops has been unsatisfactory because with excessive rain the pea plants are knocked down and rot and are therefore of little value; this can (the writer says) be prevented by sowing a very light crop of Scotch Rye with the peas. The rye has a very strong straw (3ft. or more long) and will support the peas, as if staked, against the wind and rain.

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Mr. Jos. Comini has 13 acres of Apples, Pears and Plums, bearing good crops of clean choice fruits; he takes great pride in keeping his orchard in prime condition; here are to be seen trees for their age, not to be surpassed for their contour and cropping possibilities. Mr. Comini brought up the question of Government subsidy on exported fruit, contending that growers who received high prices for fruit did not need help, while those under 4/- nett return, required this help. Some have the misfortune to grow varieties which are not profitable, which were good sellers a few years ago, it taking time and ex-

? ? ? ? ? ? ? ? ?

QUERIES QUESTIONS DOUBTS

As to the Best Outlet for Your Fruit can be dispelled by consigning it to

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Separate Department for Dried and Canned Produce and Pulp.

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London, E.1.

Tasmanian Growers ship through Eric E. Burgess, 88 Collins Street, Hobart.
Victorian Growers ship through Fred J. Andrew, 153 William Street, Melbourne.

se to work these over. Such varie- as Rymers, King David, Reinettes, , being in evidence.

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Mr. Conn's 18-acre orchard, which ooked after by his son (Mr. Conn a quarryman) shows that this ng man does his work systematic- and thoroughly.

Cover crops are regularly turned ler, the trees showing the benefit, n a novice can notice this by the k green foliage. Mr. Conn, Junr. es.) was spraying with a gun the peen Apples, which he declares y them particularly well.

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About four miles north of Harcourt lway station are two brothers, the vershas, each working his own ge orchard, in addition to some xed farming—**Henry Leversha** is so a poultry fancier of note, and has ays been famed for the production English Silver Dorkings, with which has competed successfully at metro- itan and other shows. Recently he s taken up the Barred Rock as ll, and with these winning prizes o.

But orcharding is a practical busi- ss with Mr. Leversha, the spraying ng so thoroughly done, in conjunc- n with pruning and thinning, that ste is a negligible quantity.

Some wonderful crops of Dunns, ones, Romes and Jonathan Apples; inter Nelis, Josephine and other ars, on huge trees, will take a deal handling, ere the whole is finished. ver crops with manure have been oughed under to get these results.

Mr. and Mrs. Ford, Senr., the parents of Messrs. Ford Bros., orchardists, Harcourt, Vic.

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F. Leversha, assisted by his enthu- iastic sons, have also got their work ut out to harvest the crops from 30 acres of Apples and Pears, but when a family work together as these do, with system and control, work is not burdensome, but a pleasant duty. Both these properties abut on to the railway line and have the eastern slope, which is so conducive to uni- form ripening.

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About two miles from and ap- proaching Harcourt, via Castlemaine, along the Melbourne-Bendigo road going north, the tourist begins to see orchards of Apple and Pear trees laden with fruit, also a number of "road-side" shops displaying fruit for sale, belonging to orchardists who are lucky enough to be situated on this busy thoroughfare, the traffic here is continuous.

The first place approached is **R. Norris'** with 10 acres of mixed fruit, the whole crop is sold through the shop or direct to customers.

Next is **Mr. Portwine**, who, with his family, works 20 acres of mixed fruits. Mr. Portwine has a particu- larly fine Pear patch, adjoining the railway line, opposite to his shop. This is the pioneer "roadside" shop of just about here, where a fine assort- ment of fruits, confectionery, soft drinks, etc., can be procured at any time, at reasonable cost. This spot is easily distinguished, quite a num- ber of signs direct the traveller to this place.

Mr. Portwine is keen on manuring, establishing a compost heap, where all manures and rubbish is rotted, afterwards being spread in the or- chard and ploughed in. This grower appreciates the help gained by read- ing the "Fruit World," acclaiming the "F.W. Annual" a splendid book of reference.

Mr. Fred Pritchard, Jnr., is next, growing Apples and Pears of "fancy" quality, When the writer called, Mr. Pritchard and staff were gathering Cleos.

Mr. T. Hogarth follows on with 20 acres of fruits, and also a "road-side" shop. Export does not enter into his scheme at all. In addition, cows are kept, this is the source of local milk supply, also source of manure for the orchard.

Barker's Creek

runs through these four properties, and near this locality a Cairn has been erected to commemorate the find- ing of gold, by a shepherd in the em- ploy of the late Dr. Barker.

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Mr. T. E. Eagle, hearty and hale at the age of 74, in conjunction with his wife (who was Miss Warren), treated the writer with yeoman cour- tesy on the occasion of his visit, show- ing their first-rate fruit and trees on this flourishing Apple and Pear or- chard: Jonathans, Romes, Yapeens, Schroeder, Delicious and Cleos. are the principal lines grown.

The front garden, where some of the finest specimens of Dahlias were in full bloom, all of them named, is the pet hobby of Mr. and Mrs. Eagle.

An abundance of manure is used in the orchard and flower garden.

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Mr. Johansen, whose orchards are quite close to the township of Har- court, is to be commended on his en- terprise, varieties of best sellers are the only sorts grown; Delicious Ap- ples are grown here to perfection.

Every alternate row is sown down to cover crops, making the whole after two years complete in this way. This system permits of getting about to prune and partly cultivate before the turning under of the legumes. Poultry are extensively kept with a special pen for breeding purposes.

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Mr. J. H. Elliott, of the "Pen y Bont" orchard, like many of his neighbors, was putting on his last "codlin control" spray, and was giv- ing the trees and fruit a thorough cover spray, after which it (as he says) will be a real hurry up to com- plete the harvesting and storing of his crops before the Winter sets in: peas for cover crop are to be sown throughout, with a good dressing of super.

:: :: ::

Mr. Andrew Clare, adjoining Mr. Ted Eagle's, is one of the enthusiasts in orcharding, heavy crops throughout testify to the thoroughness of the systems employed. The Shroeders are carrying a magnificent crop.

WOOD WOOL
Finest Grade for Export Fruit.
STRAWBERRY BOXES.
and Fruit Containers.
Prices and Particulars on Applica- tion to
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DIAMOND CREEK.

Fifty-third Annual Show.

The 53rd Annual Show of the Dia- mond Creek Horticultural Society was held on March 27. The show was offi- cially opened by the Hon. W. H. Ever- ard, M.L.A. The attendance was good and the exhibits were well up to the high standard of previous years. The special championship prize for six varieties of Apples and three varie- ties of Pears, a shield valued at £7/7/- donated by Henry Williams & Son, of Alphington, Victoria, to be won three times, was secured by Messrs. Wadeson Bros. The main varieties of Apples displayed in the various exhibits included Stewarts, Grannies, Jons., Del., Statesman, R Beauty, Reinettes, London Pippin, Gravenstein. The most successful ex- hibitors in this section were as fol- low:—W. J. Miller, L. Bartlett, Wade- son Bros., E. D. Wadeson, W. Mills, J. Cowin, E. C. Herbert, J. Hawkins, P. Lawry, F. Jones, J. H. Masefield, R. Lorimer, Jones and Son, P. May, D. Shannon, T. W. Harrington.

The largest Apple in the show was Newman's Seedling, shown by Jones and Son.

In Pears the varieties shown were W.B.C., Keiffers, Howell, Bosc, Jos., Packhams, Flack Achan and Law- rence. The chief prize-winners in the Pear sections were:—E. D. Wadeson, J. H. Masefield, W. J. Miller, Wadeson Bros., P. Lawry, P. May, F. Jones.

The competition for packing for Victoria Market was keen, and the honors for this prize were shared by E. C. Herbert, W. J. Miller and B. Heddle. Prize winners in other sec- tions were:—Quinces: T. W. Harring- ton; Tomatoes: W. Nankervis, F. Jones, R. Lorimer; Plums: L. Bartlett, W. J. Miller, P. May.

In the children's classes, packing in a Canadian case, first prize was won by V. Shanhun, second Y. Brown. In the competition for the Gerrard Wire Tying Co.'s trophy for packing in Canadian cases, B. Heddle came first. The packing in this section was judged by Mr. C. Gemmell, of the De- partment of Agriculture.

At the official luncheon the Presi- dent (Mr. G. G. Miller) presided and proposed the toast to the King. Other toasts were also proposed and these were responded to by Hon. Russell Clark, Hon. W. H. Everard, Hon. A. E. Chandler, M.L.C. Much credit is due to the active committee and the Hon. Secretary, Mr. T. W. Harring- ton, for the excellent arrangements made for the show.

SOMERVILLE.

The 41st annual show of the Som- erville Fruitgrowers' H. & A. Asso- ciation was held on March 24. The official opening was performed by the Hon. W. Tyner, M.L.A. The Apple ex- hibits were well up to the standard of previous years and were favorably commented upon. In the Apple classes varieties exhibited included:—Alfris- tons, Del., D.C., E.M.P., F.C., Grav., G.S., Jons., R.D.C., R.B., S.T.N., S.S., and S.P.

In the competition for the packing of nine varieties for export trophy, a silver cup, the gift of Hon. A. E. Chandler, M.L.C., first prize was secured by J. D. Grant. Other suc- cessful competitors in the Apple sec- tion were:—J. & B. Caldwell, A. J. Benton, Armstrong & Son, W. F. Boe, A. E. Thornell, H. Tyford, J. D. Grant, G. E. Shepherd, W. Young, A. E. Dennett, H. Tyford, R. J. Thornell, G. E. Shepherd, Toebelman Bros., C. Barber, T. Barclay, G. G. Cole & Sons, A. Sage, T. W. White.

Pioneer Harcourt orchardists. Top left.—Mr. Ted Eagle (age 74 years), Mrs. Eagle and Mr. Wm. Eagle (76), with friends sitting.

The championship of the show was secured by G. G. Cole & Son with a 2¾ in. G. Smith. The champion Jon. of the show, a 2¾ in. Jon., was also exhibited by G. G. Cole & Son.

In the Pear classes the varieties shown included:—B. Bosc, B. D. Cap., B. Achan, B. Park, How., Jos., Keif- fers, Packhams, Vicar, W.B.C., W. Cole.

The following were successful prize- winners in the Pear section:—W. Boe, G. E. Shepherd, R. Thornell, W. Young, J. & B. Caldwell, W. Young, A. White, F. Mills, R. Mair, C. Bar- ber, A. J. Benton.

Other trophies were awarded as follow: — Gerrard trophy, valued at £4/4/-, for packing, Mrs. J. Green; upright case, packing for Victoria Market, S. Lloyd 1st, Mrs. Green 2nd; fruit packing conducted under Depart- ment of Agriculture, Misses D. and S. Dennett and Margaret Shepherd; un- der 16 years, packing, Margaret Shep- herd.

In the section for Plums the honors were shared by A. E. Thornell, W. F. Boe and A. J. Benton; Lemons, Roy Hilton; Figs, R. J. Thornell, Mrs. G. Webb; Quinces, E. White, S. Lord; Peaches, G. A. Baudinette; Tomatoes, C. E. Thornell.

The President of the show was Mr. F. L. Twyford, and the Secretary, Mr. A. F. Telford.

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Quality first and all the time.
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Orchards & Nurseries 208 Acres.
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Lawford's Fruit Exchange
Doncaster, Victoria

Doncaster, Victoria, is a progressive fruit-growing centre, 12 miles east of Melbourne, where fruit is produced for local, interstate and export markets. Fruits specialised are Peaches and Pears.

On a recent visit to Doncaster it was of pleasing interest to observe the activities of Lawford's Fruit Exchange Pty. Ltd., a progressive proprietary organisation which has a substantial business in the cool-storage and marketing of various fruits.

Adjacent orchards of Messrs. E. J. Lawford and H. Zerbe comprise some 80 acres, mainly Pears, but with Apples and Peaches in important quantities also; while in addition, they have some some 40 acres at Croydon, where Apples are produced for handling and sale through Lawford's Fruit Exchange.

The recently enlarged cool store provides space for 25,000 to 30,000 cases.

The older portion of the store has recently been converted to the direct expansion system, while two new chambers have now been added, each capable of holding 6,000 cases. The coils are placed in the ceiling, complete with galvanised sheeting so placed as to prevent any drip on the cases. The outside walls are insulated with 18 inches of shavings. On the internal section facing the west, extra coils are provided to counteract the heat of the sun. This is a two storey cool store, the bottom portion having concrete flooring with floor space marked to secure maximum stacking capacity. In the centre there is a movable gravity conveyor to do away with the necessity for any trucks being used.

To make for speed and gentle handling an automatic elevator has been installed. When received at the upper storey the fruit is delivered by gravity conveyors into the store and then when outward deliveries are required the cases of fruit are taken by gravity conveyors to the grader and packing benches.

In the machine room was noted a Ruston and Hornsby Suction Gas Plant for supplying power for the 15-ton compressor. Although installed in 1915, this machine is still running smoothly. For the new cool store there is a 28 h.p. crude oil engine and 16-ton compressor. Electricity for the cool store, elevator, for the grader and for lighting is supplied by the State Electricity Commission.

In the cool store Pears are precooled ready for export to European and Eastern markets, while Apples and Pears are kept in store for longer periods for interstate and local trading.

In addition to fruit grown in orchards under their control, Lawford's Fruit Exchange buys from at least four of the Australian States to complete the orders in their steadily expanding business. The firm has its own case milling plant, using pinus insignis from local and other sources, cut and seasoned on the premises.

The packing house is an airy well-lit building complete with Harvey Grader and Packing Benches. The packing house and cool stores are so arranged to make for utmost convenience for receiving and delivering of fruit.

Another portion of the business is that of supplying spray materials and other equipment to growers.

Samples of promising new developments in pest control from other parts of the world are from time to time imported, tested by Messrs. Lawford and Zerbe, and if proved worthy, agencies are negotiated by Lawford's Fruit Exchange Pty. Ltd., and the goods made available to orchardists throughout Australia. Several important sprays much appreciated by Australian growers have been introduced, and stocks are carried by this firm.

Trade With the East: As already stated, Messrs. Lawford's Fruit Exchange have a very substantial business in supplying fruit to the Near East. Mr. E. I. Lawford is the representative of the Victorian Fruit Marketing Association on the Eastern Trade Committee. Mr. Lawford is in agreement with the opinions expressed in the reports of the recent Eastern Trade Commissions to the effect that more co-operation is needed between Australian firms who are catering for the Eastern trade. Fruit is sent to the East from widely different points in Australia, and Mr. Lawford's view is that a more co-ordinated policy is eminently desirable. It is noted that at recent conferences of the Australian Apple and Pear Export Council the question of trade with the East has been receiving more attention. Mr. Lawford hopes that in the very near future, the firms now attending to the Eastern trade will be brought together in order to develop a comprehensive policy.

Among other things, shipping companies have expressed a desire for advice as to space required for Eastern markets from an Australian point of view as they do not know to what extent enquiries for space have been duplicated.

:: :: ::

Summed up, Messrs. Lawford's Fruit Exchange are conducting a substantial business on sound lines, and have won a reputation for promptitude and efficiency.

Cables—Monro, London Codes—A.B.C. 5th Edition and Bentley's

GEO. MONRO Ltd.

The Most Important Fruit-Distributing Organisation in the World.

COVENT GARDEN MARKET, LONDON, and SMITHFIELD MARKET, MANCHESTER

Other Branches: BIRMINGHAM, GLASGOW, WORTHING, SPALDING and HULL

Sales on Commission, by Private Treaty only.

Over sixty years' of Fruit Distribution.

We do not purchase.

Our Sale Rooms are the largest and most up-to-date in England; consignments are therefore displayed to the best advantage, consequently, our returns are the best.

We have specialised in the Sale of Australian Apples and Pears by expert salesmen for many years past, and we have the largest and best customers in Great Britain amongst our clients.

Bigger and better business is our objective.

We make advances to cover cost of freight, etc.

(Established 1862)

DIRECTORS:

Major Edwin G. Monro, O.B.E. (Chairman), Geo. Monro, C.B.E., Bert J. Monro, Captain J. Stuart Monro, Alex. J. Monro, and C. Cole.

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Victorian Representative .. .. .. Esmond Russell Pty. Ltd., 395 Collins St., Melbourne.
Southern Tasmanian Representative W. H. Ikin & Son, Dunn Street, Hobart.
Northern Tasmanian Representative Bell & Gerrard, No. 200 Cimitiere St., Launceston.
West Australian Representative . .. The Westralian Farmers Ltd., Perth.

VICTORIAN FRUIT SHOWS.

(Continued)

At **Croydon** the fruit section was small in comparison with the importance of this district as a fruit producing centre. Flowers predominated, while the dog show and ring events attracted much attention. The fruit, however, was of excellent quality, and won favorable commendation from the judge, Mr. Walter Mock. Amongst principal prize-winners for Apples and Pears were Messrs. A. C. Chandler, H. R. Chandler, A. J. Upton and E. O. Symons.

The **Panton Hills** Show demonstrated the fertility of this charming district. Fruit and flowers were displayed in abundance, also jams and jellies, cookery and needlework. There were many expressions of appreciation on the excellence of this Show.

NICOTINE FOR PEST CONTROL.

Fruitgrowers and market gardeners have come to realise the importance of accuracy in regard to the ingredients of the various sprays and dusts in pest control. The rule of thumb method of boiling tobacco stems or dust is considered to have been superseded by the use of preparations of defined nicotine strength; the latter being surer in effect and more economical.

The manufacturers of "Britnico" (a British made nicotine sulphate), direct attention to the economy effected by the use of their product which they state is guaranteed of 40 per cent. nicotine strength, also "that a little goes a long way," and that the strength of the lethal dilution is always assured.—(Advt.)

Motor Cars, Trucks, Tractors

Tractors Greatly Improved

It is now 26 years ago since the first arm tractor trials were held in Engnds, says E. T. Brown in "Farmer nd Settler" (N.S.W.), and in that ime many improvements have been nade.

The modern tractor is called upon o perform the same operations as hose which were entered in the first ractor trials, but it is needless to say hat they carry out their work infiitely more expeditiously, and make a etter job of it. The improvements ave been many and varied, but one annot say that finality has as yet been reached. Tractor design is advancing, but as would be expected at this stage the possible margin of efficiency, in which improvement can be made without revolutionary alteration, is comparatively small. But they are certainly becoming more reliable and efficient, and more powerful for a given weight and engine capacity, as each new model is introduced.

One point is rather peculiar, namely, that ploughing speeds have not increased to any extent. High-speed ploughing has been promised for years, but it has not yet materialised. But we have increased width and depth of working, because of increased power, and this is of inestimable value. We also have a greater variety of machines so it is possible to select a large tractor for ploughing, and heavy cultivating, and a smaller outfit for intensive cultivation in orchard, and market garden, and for the lighter forms of farm work.

Ploughing speeds may not have increased, but transport speeds have, this being largely due to the introduction of the pneumatic tyre for both tractor and trailers. The transference of crops, and materials from the land to the farm buildings has also been considerably speeded up by modern improvements.

Implement Improvement.

In the early days there were no powerlift ploughs; these implements were coupled up by chains and required an extra man to steer them. These gave way in time to the semi-rigid attachment with some kind of a lifting gear. Then came the modern tractor plough, and it is quite on the cards that a type in which the plough rigidly attached to the tractor chassis with hydraulic lifting gear may be available. The heavy disc plough may not be appreciated by the older type of farmer, who delights in a perfectly laid slice, but it has undoubtedly come to stay. It is becoming increasingly popular, especially for stony ground, where the replacement item of the breast plough tend to be heavy. Another innovation which has come to stay is the wider poly-disc for cleaning stubbles and cultivating, because of its enormous capacity in acres per day. There have been improvements in the implements of still greater importance than those mentioned.

CHEVROLET—The World's Sales Leader, Offers . . .

BIGGEST TRUCK VALUE

More Power Per Gallon, Less Cost Per Load
With The New 1937 Chevrolet

30 cwt. - 2 ton
and
COMMERCIAL MODELS.

The 1937 Chevrolet Trucks are entirely new vehicles, redesigned for greater efficiency at lower cost. They're the biggest truck value ever offered, because—The New Chevrolet Six-Cylinder Overhead valve Long-life Engine gives more pulling power than ever, but with an actual saving of fuel and oil consumption costs. The New Chevrolet power unit is now more forward mounted, adding to available load space and increasing durability by eliminating body overhang and lessening chassis strains.

NEW BIG VALUE FEATURES include: Improved Perfected Hydraulic Brakes—New Full-floating Rear Axle—Four-bearing Crank and Camshafts—New Improved Engine Supports—New Stabilised Front End—New Steering with Increased Ratio—New Stronger, Straighter Frame—New U-Type and Box Section Cross Members with Alligator Jaw Fastenings — New Spring Hangers, Springs and Spring Helpers.

Massive in looks, Chevrolet Trucks set new high standards of appearance with their steelstream styling, All-Steel Sedan-Type Safety Cabs, with V-Type Safety Glass Windscreen.

CHASSIS PRICES :

Commercial Truck from - £230
30 cwt. - 2 ton Truck (131 w.b) from - - £277
30 cwt. - 2 ton Truck (157 w.b.) from - - £297

All Prices Plus Sales Tax.

Six Cylinder CHEVROLET Long Life

Sold and Serviced by Chevrolet Dealers throughout Australia.

Metropolitan Distributors:

PRESTON MOTORS PTY. LTD.

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24 HOURS TRUCK SERVICE.

HERE'S A NEW ONE.

Water from Petrol.

Every driver knows how water in the petrol supply can cause trouble, but the theory that the world's water supply is being increased by 17½ billion gallons annually because of the expulsion of moisture into the air that the 39,000,000 motor cars in the world create, is propounded by a writer in the Dunlop-Perdriau Bulletin.

In exploding in the combustion chamber, the average motor car engine requires one part of petrol to 16 parts of air. On this ratio a gallon of petrol requires the air contained in a room 10 ft. square by 12 feet high, but while automobiles consume such a huge quantity of air they also produce an enormous quantity of water, hence the computation stated above.

NEW PARTS COMPANY IN AUSTRALIA.

A very important development has taken place in the parts and accessory side of the automotive industry in Australia with the formation of the National Automotive Service Company, a division of General Motors-Holden's Limited.

Nasco, as the new company will be known, will commence operations from December 1, 1936, taking over the entire personnel, also the new building and modern equipment recently erected for the Parts Department of General Motors-Holden's Limited.

This new company will in future distribute genuine G.M-H. spare parts and accessories, "Air Chief" car radio, Holden body hardware, Delco-Remy parts, A.C. products, guide lamps, special tools and garage equipment, and many other well-known proprietary lines.

The object of the new company is to make available to the motoring public, through the automotive trade in Australia, the best possible service on parts and accessories and the many other proprietary lines it is intended to handle.

£7,500,000 FOR CAR BODIES.

During the last three years there has been a remarkable expansion in the making of automobile bodies and parts in Australia. General Motors-Holdens claim that their production in 1935 returned a revenue of over £7,500,000 in Australia. To meet their requirements 4,147 tons of steel, 390,600 yards of fabric and hoodings, 1,677,400 sq. ft. of leather, 212,700 gallons of lacquer and paint, 150,000 spark plugs, 75,000 chassis springs, and 240,000 tyres and tubes were needed.

Eighty-eight per cent. of the revenue of the company stayed in the British Empire, of which Canada and England received 13 per cent.

SCHOOLS FOR MOTOR MECHANICS.

The competent training of motor-car mechanics has for long occupied the attention of the leading distributors in Australia. General Motors-Holden's Ltd. have given a lead, and now operate schools for mechanics in almost all States of the Commonwealth. The course occupies two weeks, and during 1936 no less than 551 men passed through the schools. Of this total the Victorian school accounted for 148, New South Wales for 151, South Australia for 66, Western Australia for 63, and Queensland for 123.

The performance of the motor car has advanced to such an extent over the last few years that old service methods are no longer adequate to maintain performance at its highest degree, and, realising this, General Motors-Holden's Ltd., has established mechanic schools in practically all capital States in Australia.

CHROMIUM PLATING.

In no circumstances should chromium-plated parts be cleaned with an abrasive polish is a reminder given in the "South Australian Motor." If the car is cleaned and looked after regularly, rubbing such parts with a damp rag would be sufficient to remove all traces of travel stains and a final polish with a soft cloth will restore its pristine appearance. If it is necessary to be a little more energetic in the cleaning, then there are available some very good polishes, all of a non-abrasive type, sold at most garages.

RACE ROUND AUSTRALIA.

£10,000 in Prize Money.

What is claimed to be the world's greatest motor car race will be conducted as part of the N.S.W. 150th anniversary celebrations. Preliminary conditions have been drawn up, and the great event will be more a test of reliability of the machines and the skill of the drivers than a race. 9,000 miles is the approximate distance that will be covered. There will be three classes, i.e., engines up to 1,000 c.c., 1,001 to 2,000 c.c., and over 2,000 c.c., with sports and touring sections separate. Check stations will be organised along the route and average speeds, to suit each class, will be insisted upon, except in outback sections. This is said to be to prevent undue speeding and danger.

Fifty thousand points will be credited at the start, and points deducted according to a schedule carefully drawn up. The cars finishing the course with the highest points will be declared the winners.

TASMANIA

Large Crops of Clean Fruit are Being Harvested. Big Demand for Instruction in the "Crown" Packing of Apples.

WEATHER AND CROPS.

AFTER AN ABNORMALLY WET January the average to dry conditions experienced in February were very welcome, and could scarcely have been better timed for the Apple and Pear crops; temperature conditions were, however, below average for the time of year, states Mr. P. H. Thomas, Chief Horticulturist, Tasmanian Department of Agriculture. The following rainfall records have been made available by the Commonwealth Meteorologist, and are taken from representative centres. At Franklin 181 points were recorded, as compared with an average of 193, and last year's figure of 81 points; Hobart, 103 points, as compared with the average of 159 and 28 points last year; Launceston 127, the average being 120 points.

Large Crops of Clean Fruit.

Taking the crops as a whole, the position has improved as regards possible production, and it is doubtful whether the appearance of the fruit and freedom from disease at the present time has been better. C.O.P., Ribstons and Sturmers this year are particularly free from russetting and cracking around the stalks, but up to the present time color development in Jonathans has been slow. Size throughout is good in all varieties, but many are still behind normal in average maturity and growers are advised to pick pit-susceptible varieties with great care.

When the development of this trouble is feared small trial pickings should be made and stored for from 10-14 days, when an examination will generally give a good idea of any loss likely to be incurred, and steps can be adjusted accordingly.

Growers are strongly urged to avoid exporting any fruit from off-year trees, particularly of such varieties as Cox, which are liable to develop extensive bitter pit in storage.

Pests and Diseases.

As already mentioned, fungal diseases have been greatly checked by weather conditions, and black spot is practically negligible where correct spraying treatments have been carried out.

Canary Fly has been well kept in check by spraying, but where this was neglected a fairly heavy infestation from the second brood (which was later this year) is evident. In later districts a kill of the nymphs on the under sides of the leaves might yet be obtained; but in other areas, adults are already on the wing. Washing to remove the excreta of this insect is fairly simple, and generally dipping or sluicing with water and leaving the fruit to dry off is sufficient.

Woolly aphis is very prevalent in the Huon, the cooler weather apparently retarding the development of the Aphelinus parasite, which is, however, gradually overtaking the aphis now.

Reports regarding codlin moth show that in the Huon, control measures have been successful. Damage to fruit has been later than usual, and is considerable in some parts of the Derwent Valley, Glenorchy, Channel and Dover districts.

Until quite recently, Red Spider has not caused any great concern, but with recent dry, sunny weather, this pest has developed rapidly, and infestations in some orchards have become serious. In view of the good growing season, however, it is doubtful whether the pest, where present, will justify any late spraying, and can be left to a good Winter oil spray in most cases.

Packing.

The time of the instructors has been insufficient to cope with the demand for instruction in the "crown" pack in the Canadian type case, and standard Pear case. Any growers requesting a visit are advised to communicate with the Department well in advance of the time required, so that the necessary arrangements can be made. A number of growers are still under the impresison that this case can be packed in a somewhat similar manner to the Australian "dump"; however, in order to pack with the correct bulge a lidding press is absolutely essential. A shortage of these is likely for the time being, but temporary arrangements with those possessing one can doubtless be fixed or a makeshift press arranged by the local carpenter or blacksmith until such time as a recognised make is available.

Neglected Orchards.

Approximately 30 acres of neglected or unprofitable orchards have been removed during the month, and two prosecutions made under the Plant Diseases Act. Whilst the majority of the notices served, particularly for the control of codlin moth, have been complied with, it is expected that it will be found necessary to proceed with further prosecutions.

WELL TRAINED.

They were engaged to be married, and he was proudly relating his former adventures in Africa.

"I had to hack my way," said he, "through almost impenetrable jungle, chopping, slashing at thick undergrowth and trees——"

"Oh, George!" said she. "You'll do fine when you have to weed the garden!"

The Port of HULL

... IS ...

THE FRUIT CENTRE

Serving a Population of Over 13,000,000 in the North and Midlands.

REGULAR SAILINGS TO CONTINENTAL PORTS provide unrivalled MARKETS for re-export of EMPIRE FRUIT.

Specially Constructed REFRIGERATOR VANS carry FRUIT direct from STEAMER to inland destinations by EXPRESS TRAINS.

RAPID HANDLING, QUICK DESPATCH, LOW CHARGES, and THE BEST PRICES. SEND YOUR FRUIT TO HULL.

TEN MODERN DOCKS entirely owned and managed by

THE LONDON AND NORTH EASTERN RAILWAY

Full information and literature supplied on application—

BURNS, PHILP & CO. LTD.,

7 Bridge Street, Sydney. 312 Collins Street, Melbourne; and Branches.

THIS CROP WAS SAVED BY PESTEND SUPERFINE (TOBACCO DUST)

"Look fine, don't they?" said Mr. Short, waving a hand over 100,000 big, healthy Cabbages.

"Yet green, grey, and flying aphis nearly had the lot. Pestend Superfine, used in the spray duster, quickly destroyed them, however, and I expect a very successful crop." . . .

"Yes! You can repeat this conversation, and add, too, that Pestend spreads and adheres better, acts quicker, lasts longer, and costs less than ordinary spraying powders."

Follow the lead of expert gardeners and growers, who have proved that Pestend Superfine (especially when mixed with lime) is a sure protection against crop-destroying insects. Pestend Superfine Tobacco Dust is non-poisonous to plants, inexpensive, and easy to use. Try it out yourself!

Obtainable in 4 lb., 28 lb., and 1 cwt. bags at all produce stores, or direct from W. D. & H. O. Wills (Aust.) Ltd.

THE MARKET GROWER

OFFICIAL ORGAN OF THE MARKET GARDENERS AND FRUITGROWERS' SOCIETY OF VICTORIA.
ALSO OFFICIAL ORGAN OF THE KOONDROOK & BARHAM TOMATO GROWERS' ASSOCIATION.

Fertilisers For Potatoes

Results of Tests

THE EFFECTS of various applications of fertilisers on the yields of Potatoes are seen in results of experiments conducted the Victorian Department of Agriture in most of the important tato growing districts of the State. ese results show that the most proble manurial dressing is a comation of superphosphate and sulate of ammonia, the optimum apcation depending on the district. At Beech Forest, for instance, the lds of marketable tubers harvested ge from 3 tons 15 cwt. per acre in e case of the unmanured plot to 8 ns 1 cwt. where 9 cwt. super. and cwt. sulphate of ammonia had been plied, an increase of 115 per cent. e soil on which these tests were cocted is a friable loam of good texre.

Yields at Trentham were lighter an usual, the crop having suffered verely during the dry spell in nuary. The tests at this centre e carried out on soil typical of a rge area in the central highlands. e "no manure" plot yielded 2 tons r acre, while the maximum yield of tons 10 cwt. was obtained from the ot which had received 3 cwt. super d 2 cwt. sulphate of ammonia. Over period of 9 years, however, the most onomical return has been obtained ith a dressing of 3 cwt. super. and cwt. sulphate of ammonia per acre.

On the red volcanic soils at Wheatsheaf, in spite of the dry conditions and lower yields experienced, the value of judicious manuring was again demonstrated. Here again the "3 and 2" mixture showed to the best advantage last year, but average results over 8 years indicate the "2 and 1" mixture as the most economical.

Somewhat similar results were obtained at Romsey, although this district again showed a comparatively poor response to the fertilisers. On the lighter volcanic soils at Musk the yields obtained last season were very light compared with other years, due mainly to the fact that the crops were severely affected by frost during the early part of March. Here also the "3 and 1" application showed to the best advantage.

The Warragul tests are notable for the fact that this district is the only one in Victoria where official experiments have shown any increase in Potato yields from the use of potash. Over a period of 10 years the increased yield due to the use of 6 cwt. super and 1 cwt. potash per acre amounts to 98 per cent. compared with an increase of 70 per cent. from the dresing of 6 cwt. super, alone. At Koroit and Illowa, where the adverse seasonal conditions seriously affected yields, the "3 and 1" mixture still shows as the most profitable over a period of years.

UNIFORM STANDARDS FOR POTATOES.

Advisory Council's Proposals.

At the first annual meeting of the ederal Potato Advisory Committee, eld in Melbourne late in March, prosals were announced for establishng uniform grading and standards for otatoes throughout Australia. The dvisory Committee, which was formd last year, consists of two repreentatives from each State. A year go a sub-committee was formed to raw up proposals for uniform gradng, and their report was the main ubject of discussion.

Up-to-date, the standard of grading s different in each State, and a comromise was suggested. The proosals were endorsed by the Council nd will be notified to all State Deartments of Agriculture preliminary o a conference of the Agricultural Council to be held in Canberra, probably in May.

The Advisory Committee also decided to seek the co-operation of the Council of Scientific and Industrial Research in an effort to ascertain the causes of deterioration in Potatoes during transit by sea, aiming at the development of an export trade with the East.

1,471 BUSHELS OF ONIONS.

Grown on One Acre Land.

Every year the Purdue University of Indiana, U.S.A., promotes and supervises the State-wide contest in growing Onions. Careful check is made and certain conditions observed in making this honor award. In November, 1936, a new State record was made when one grower produced 1,471.98 bushels of Onions from imported Spanish seed from one acre of land.

ONION PRICES REDUCED.

The Victorian Onion Marketing Board recently decided to reduce the fixed price for the sale of Globe Onions from £8 to £6 per ton. It was stated at the last meeting of the Board that the Brown Spanish crop was most satisfactory, and that the quality was eminently suitable for export. At the lowered price, it was anticipated that interstate movements would be increased.

Upwards of 1,500 tons export to Canada and other oversea markets was forecast. This would include a large shipment to Philippine Islands, whilst shipments to Canada would continue during April.

VEGETABLE BRIEFS.

Returns to Californian vegetable growers in 1936 were over £3 million more than in 1935.

The Southern Idaho Bean Growers' Association has asked the State Legislature to provide money to continue the fight against white fly.

An average of 122 crates of Lettuce per acre is reported by growers in the Salinas Valley, Calif.

Fruit and Vegetable growers in San Diego County are now forming a marketing and canning association to handle their entire production.

During 1936, the Apple Growers' Union at Sebastopol, Calif., marketed 7,667,673 cases of fruit from grower-members.

In 1936, California produced over £85 million worth of agricultural products from 5½ million fertile acres, an increase of over £13 million over 1935.

Save Tomato Seed

FROM CAREFULLY SELECTED PLANTS.

Those Tomato growers who recognise the wisdom of saving their own seed from carefully selected plants are advised by the N.S.W. Department of Agriculture to allow the fruit to become overripe before cutting it in half and sqeezing out the seeds and juice.

The seeds and juice are then allowed to ferment for at least forty-eight hours, after which the mixture is diluted with water and vigorously agitated. The liquid is then drained off, more water is added, the mixture vigorously agitated and the liquid again drained off. The operation is repeated until the liquid drained off is quite free of organic matter.

It is strongly recommended that before drying, the seed should be dipped in a 1 in 1,000 solution of corrosive sublimate for ten minutes. Dry the seed rapidly in the sun. Care should be exercised in the handling of corrosive sub-lime, even the diluted dip abovementioned being deadly poisonous.

Tomato seed, if mature when saved, fermented correctly and stored under good conditions will remain viable for six years.

MUSHROOMS.

New Industry in Victoria.

Victoria seems to provide suitable natural conditions for mushrooms and commercial mushroom growing is being experimented with. Messrs. Alburnie Bros. have begun operations at Ferntree Gully and anticipate success and rapid development.

In N.S.W. many mushroom farms are operating, one grower is reported to have marketed 7,000 lbs. in his first year, whilst others earn up to £20 per week, according to report. It is quoted that mushrooms can be grown for 2½d. per lb. and sell wholesale at about 2/- per lb. In N.S.W., spawn is made available by the Department of Agriculture.

In Europe, where mushrooms have been grown commercially for almost 100 years, glasshouses and house cellars are utilized. It is stated that up to 20 million lbs. of cultivated mushrooms are produced annually in U.S.A., where they are popular, both fresh and canned.

Temperature, moisture and ventilation are the main requirements, whilst darkness is claimed to be an asset, this, however, is being contradicted lately. The development of the mushroom growing industry is certainly indicated and there can be no doubt that regular supplies of the delicacy would be welcomed by the public, who could easily be made "mushroom-minded."

DEPRESSION ENDED.

Therefore Americans are Eating More Pickles.

U.S.A. pickle companies argue that because domestic sales of pickles are well above last year's trade, the period of depression can be said to have been passed. If this happy condition continues, it is said that growers will need to harvest a greater crop of pickle varieties than last year, when the crop was short.

"Plane" Brand Dusts

"Beauty" (Knapsack) Dusters
"Superior" (Rotary) Dusters
ARE MANUFACTURED BY
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MELBOURNE

ODORLESS CABBAGE WILL BECOME POPULAR.

What is described as an entirely odorless Cabbage has been evolved by Wm. Koischara, of Long Island (U.S.A.), and Prof. Myers, plant breeder at Cornell University. The Cabbage was evolved from the Savoy variety of ordinary Cabbage after separating what looked like a "sport" in a field of Savoys.

It is claimed that not only is it quite odorless when cooking, but it will withstand drought conditions and still produce marketable heads. It will also stand long in the field without bursting. Further tests will be made from seed saved and its possible variability watched before seed is placed on the market.

FEEDING PLANTS THROUGH THEIR LEAVES.

London Expert's Experiments.

That plants can absorb growth-producing substances through their leaves as well as through their roots, is the claim of Dr. H. L. Pearse, Plant Physiologist at the Imperial College of Science and Technology, London. In a series of experiments he sprinkled the leaves of Tomato plants with a solution of phenyl-acetic acid and observed a 30 per cent. increase in the height of the plants. Since their total weight, however, proved to be the same as that of control plants, he decided that the substance taken in through the leaves had changed the character of the plant by acting on the cells in the stems and inducing quick growth.

CANTALOUPES AND HONEY-DEWS.

American Melons Popular.

The Australian taste for two American varieties of table Melons has been developed in the last few years, until both Cantaloupes and Honeydews are now eagerly sought, and growers have increased their cultivation of these varieties. One Queensland grower, 100 miles from the coast, has this year harvested these Melons from about 17 acres of virgin land at Mundubbera. A large proportion of the fruit is trucked direct to the Sydney market under arrangements with the Queensland Committee of Direction of Fruit Marketing, which sees in this comparatively recent development an outlet for varieties found to be both profitable and capable of being grown in this country, earlier than those produced in New South Wales.

Export & Commercial News

THE REFERENDUM

AVIATION AND MARKETING PROPOSALS DEFEATED.

Existing Agreements Will Ensure Successful Organisation This Season. Possibilities of Interstate Unity Through Voluntary Efforts.

THE RESULT of the referendum for altering the constitution of the Commonwealth in regard to aviation and marketing came as a surprise to most people. Both proposals were defeated.

Prior to the poll there was a general feeling that the aviation question would be answered with an emphatic "yes" throughout the Commonwealth. Yet only two States—Victoria and Queensland—had majorities in favor. For the aggregate poll there was a majority in favor of altering the Constitution in this matter, but a majority of the States was needed also and this was not forthcoming.

With regard to the marketing question, it was fairly generally believed that Tasmania and Western Australia would vote "No," although the organisers of the "Yes" campaign had many encouraging meetings in those States. But a "Yes" vote was certainly anticipated in Queensland and Victoria, with strong anticipations of "Yes" in N.S.W. and S. Australia. However, every State voted "No" — and the State which recorded the heaviest "Yes" vote was Victoria. The vote in Queensland was probably the surprise of the campaign.

The figures were as follow:—

	Aviation.		Marketing.	
	Yes.	No.	Yes.	No.
Victoria	625,566	339,587	431,187	504,047
N.S.W.	610,464	693,218	418,469	837,148
Queensland	268,238	168,888	159,390	262,337
South Australia	117,291	174,773	58,627	227,554
West Australia	85,479	96,472	47,366	129,779
Tasmania	44,137	69,081	23,754	84,907
Totals	1,751,175	1,542,019	1,138,793	2,045,772

The Prime Minister expressed regret at the decision, affirming that the people had made a major error, and stating also that the suggestions for equalisation of local and exporting marketing by means of excise and bounty would not be entertained by the Government.

Both the dried fruits and the butter industry—the two industries most affected at this time—have agreements which will see them through this year, and in the meantime the leaders of the industries concerned are conferring in order to arrive at methods which will ensure stability under the now altered circumstances. The A.D.F.A. itself is a voluntary organisation.

:: :: ::

Speaking at a Producers' Conference in Victoria on March 17, the Acting Premier (Mr. Old) said that producers should not be discouraged by the referendum setback. Chaos in the dried fruit industry could be avoided if primary producers were loyal to the arrangements made with their commodity Boards. Producers could secure orderly marketing without legislation. Unfortunately there was always about 10 per cent. of producers who saw an immediate temporary advantage and would not be loyal to the other 90 per cent.

He appealed to all primary producers to be loyal to voluntary marketing schemes in the absence of comprehensive Federal legislation.

Power Through Excise.

The Attorney-General (Mr. Bussau) said he held the opinion that the Commonwealth had the power, through excise, to protect primary industries, and it was its duty to exercise such power.

AUSTRALIAN FRUIT IN U.K.

Pears, Plums and Apples.

Cabled advices are to the effect that Victorian Pears ex "Mooltan" were from good to wasty, realising from 10/- to nothing per case. Plums ex "Mooltan" were in fair condition and brought 7/- to 10/-.

South Australian and Victorian Pears ex "Melbourne Star" were in excellent condition—prices, 11/6 to 12/6.

Approximtely 20,000 cases Apples from "Oronsay" arrived in excellent condition. Dessert varieties are clearing at good prices, and Jonathans averaging 13/- to 14/-, with cookers slow; not due to faulty fruit, but due to glut of English varieties.

S.A. Williams Pears Satisfactory.

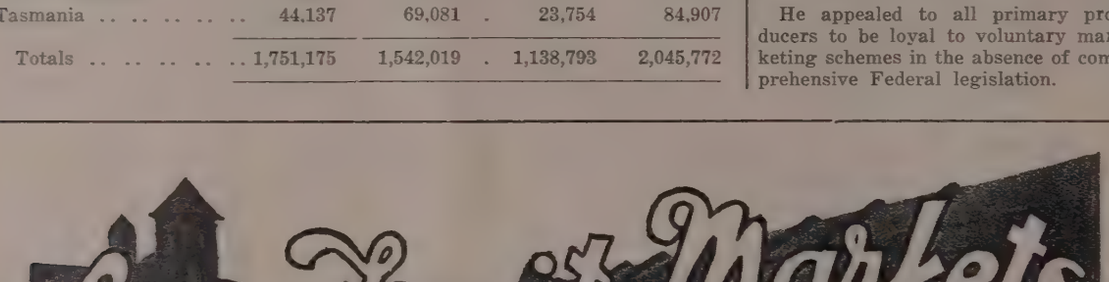
The general manager of the Government Produce Department (Mr. G. A. W. Pope) stated on March 22 that he had received a cable from the Agent-General and Trade Commissioner for South Australia in London (Mr. C. F. G. McCann) saying that he had just inspected at the docks the South Australian Williams Pears shipped in the S.S. "Melbourne Star," and that they were in satisfactory condition.

South Australia has this season made experimental shipments totalling 20,559 cases of these Williams Pears, the second shipment being in the S.S. "City of Manchester," due to arrive immediately.

This class of Pear has always been a very poor carrier, and past experimental shipments have only been partially successful.

The "Melbourne Star" made a particularly fast voyage of 33 days to London, and if we can in future get equally fast delivery we feel sure that the trade will develop.

The majority of the Pears were sold on a c.i.f. basis at 8/6 per case, which will nett the grower an average of about 4/3 per case in the orchard.



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GROWERS!—Consign your Fruit to—
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Established 1882.
SHIPPING NO. 19. 88 VIC. & TAS.
Stencils, Advice Notes, etc., on Application.

CONSIGN YOUR FRUIT TO
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Proprietor: STANLEY H. POGSON.
LICENSED FARM PRODUCE AGENT.
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PROMPT RETURNS. SHIPPING NOS.—
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Bankers: Bank of N.S.W., Haymarket, SYDNEY.

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Producers' Co-operative Distributing Society Ltd.

Are now paying a Bonus of 10% on all Commissions charged to regular clients of the Fruit & Vegetable Section for year ending Sept., 1935

Send Your Consignments
TO US
MELBOURNE & SYDNEY.

RADE WITH NEW ZEALAND.

r Delegate Seeks to Smooth out the Difficulties.

ORDER TO ASSIST in putting an end to the "trade war" between Australia and New Zealand, Australian Labor Movement rely sent a delegate—Mr. L. Logue N.Z. to render any service ible.

r. Logue states that New Zealers are indignant because of the argo placed by Australia on N.Z. atoes, Apples and Pears, the nion being firmly held in the inion that the reasons for the stralian embargo are purely eco- ic, and that the Australian Go- ament is insincere in giving fear disease as the reason for exclusion. re is no justification for the fear fire blight, being introduced into stralia from N.Z. fruit.

After having failed in their negotia- s for the removal of the embargo Potatoes, Mr. Logue continued, Z. growers asked for retaliation, and ntually the embargo was placed Australian Oranges and other fruit. Z. would have lacked in spirit had y not done so.

However, the regret is that so many ses have accrued — losses of enue to both Governments, losses Australian fruit growers and allied lustries, and workers, while the Z. public—particularly children— fered from the lack of Oranges. ly the wealthy could obtain this it.

The trade balance between Aus- lia and N.Z., states Mr. Logue, is siderably against N.Z., and the mmonwealth Government should its level best to assist N.Z. and ate friendly feeling and goodwill in ace of the mistrust and suspicion ich now persists. He states that rms of settlement are being pre- red, and an adjustment of anomalies hoped for.

NEW REGISTRATION.

Heighway, D. W. & Co., 207 homas-street, Sydney, fruit and getable agents and exporters, etc. m. 1/3/37. Proprs.: Lawrence W. lomons, Douglas W. Heighway, and orge Good. Reg. 2/3/37.

BUSINESS CHANGES.

Walters, M. & Co. (John Bell, An- ew J. Marsh, and Eleanor M. Donaghoe, now deceased, trading), fruit merchants and licensed com- ission agents, Municipal Fruit Mar- ets, Sydney, etc.—Partnership dis- olved as from December 31, 1936, accordance with the partnership greement. John Bell and Andrew J. arsh will continue.

Hay Bros. (Emerson and Leslie S. ay), City Fruit Markets, Sydney. ruit merchants. On 1/1/37, Emerson ay retired. Regd. 26/2/37.

APANESE APPLES IN LONDON.

nlikely to Seriously Compete With Australia and New Zealand.

ALTHOUGH JAPANESE APPLES are arriving in London in good order, the opinion is expressed y Mr. W. M. Carne, that they are ot likely to seriously compete with ruit from Australia and New Zea- nd.

Mr. Carne's report, which is dated rom London on Feb. 9, 1937, has been received by courtesy from the Dept. of Commerce, and is as follows:—

SOME YEARS AGO small consignments of Japanese Apples were received in England, and another consignment of 150 boxes is at present in Covent Garden. These Apples were shipped from Yokohama to Vancouver, across Canada by rail, and then from Nova Scotia to London. Each Apple is wrapped in paper and then in shredded cellophane. Although the boxes are about 2 in. longer, 1 in. wider, and 1 in. deeper than the standard boxes, owing to the presence of the cellophane, the net contents are only about 40 lb. The Apples, mostly 2¾ in., were of three varieties, in excellent condition, well colored, ripe and free from bruising. The varieties, given by Japanese names, are not known here. They are sweet, but with little flavor.

This Japanese fruit is of interest to show what can be done by careful packing, and also to illustrate a new type of pack, but owing to the long distance and high freights they are unlikely to compete with Australian Apples in England. This fruit is selling at prices about equal to fair average North American fruit.

Early African and Argentinian Pears, Williams variety, are already on the market.

Cable Address: DAVIS, MELBOURNE. Code: "ABC," 4th and 5th Editions. Box, G.P.O. 148B.

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Telephone, F 3232. Bankers: The National Bank of Australasia, 271 Collins Street, Melbourne.

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Growers Will Receive Top Market Value and Prompt Returns.
Fidelity Bond Guarantee for £1,000
Pea and Bean Stands, 11 and 12 Victoria Market.
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Phone: F 5035.

SYDNEY CITY MARKETS.

It is stated in Sydney that the Lord Mayor (Ald. Howie) intends, during the next few weeks, to investigate conditions at the City Markets, with a view to proposing some scheme for co-ordinating the various sections, and possibly making some improvements in accommodation, pending the construction of new markets.

Ald. Howie informed Ald. Dean, at a recent Council meeting, that there were persistent requests from agents and others for increased accommodation at the markets. Those who made the requests, said the Lord Mayor, seemed to want to increase the capital expenditure of the council, but they did not want to pay any more in rents.

Fruit Prices in the Sydney Market

Survey of Operations for the Period February 26 to March 25, 1937.

Fruit of all Types Plentiful :: Apples and Pears Particularly Prominent :: Interstate Apple Crop for this Market Probably Unprecedented :: Wet Weather Hampers Demand and Supply :: Exposed Unloading Conditions at Darling Harbor Obsolete :: Grapes of Excellent Quality :: Tomatoes Languish.

By L. T. Pearce, Market Representative Fruitgrowers' Federation of N.S.W.

IT IS A LONG TIME since such stacks of fruit were seen in the Sydney market, deliveries from all quarters being heavy. This applies most obviously to Apples, Pears, Melons of different types, Grapes and Tomatoes.

The steady deliveries of New South Wales Apples and Pears are now supplemented by arrivals from Tasmania, which have increased up to approximately 12,000 cases of Appl per week and from 5,000 to 6,0 cases of Pears. Amongst the ar vals, unfortunately, are many typ which net returns in years gone have indicated to be obsolete and u wanted. Unfortunately, many agen have required to pay rental on stan occupied by Gravenstein, Ribst Pippin, McIntosh Red and oddmen in relation to Pears that have be unsaleable. The absence of facto buyers has made the position th year much more difficult.

All fruitgrowers, both State and i terstate, who use the rail-head Darling Harbor in Sydney, shou protest vehemently to the railw authorities at the obsolete unloadi conditions that are permitted to co tinue. Day after day carriers we compelled to work in the rain, t careful handling of fruit being ma most difficult. Overhead shelter, ev if of a temporary nature, and u loading platforms are essential.

Grapes have been a feature of t market during the period under r view, the quality being excellent a prices generally fairly satisfacto Purple Cornichon did not obtain t high figure secured in years gone b but the supply was probably great and the Black Muscat variety w more popular.

Growers of Tomatoes have had particularly disappointing tim values mostly being low for the stea supplies that have arrived from quarters of the State, also from V toria and Tasmania.

Apples:

The Jonathan variety has been t king of the market during the la few weeks, with other eating typ experiencing popular favor in the fo lowing order:—Fanny, London Pipp Delicious, with other types followin Cooking Apples have met with stea request, particularly the Granny Smi variety. Most N.S.W. eating Appl have been small in size and coun greater than 216 per case have acc mulated. Most arrivals have be Fancy and Good grades with pro ably about 5 per cent. of Extra Fan appearing. N.S.W. Delicious have a peared in greater quantities than customary at this time of the yea the probable reason being that larg areas are coming into bearing a growers are distrustful of holding fruit until late in the season. Ma varieties have appeared that are a solutely unwanted and growers wou be well advised to cease marketin Gravenstein and McIntosh Red a similar early varieties before Marc Prices:—For Fancy and Good grade quoting in three groups (1) 2¾ in., in. and over, (2) 2¼ in. and 2¾ and (3) 2¼ in.—Alf. and Alex. (Tas 4/6 to 5/-, 3/6 to 5/-, 3/-; Cle (N.S.W. and Tas.) 4/6 to 5/6, 3/6 5/-, 3/- to 5/-; Del. (N.S.W.) 7/- 10/-, few 12/-, 6/- to 9/-, 5/- to 6/ Duke of Clarence (Tas.) 4/6 to 5/ 4/- to 5/-, 3/6 to 4/6; Fanny (N.S.W Tas. 5/- to 6/-, 4/6 to 6/-, 3/6 to 5/ Granny S. (N.S.W.) 7/- to 8/-, 6 to 8/-, 4/- to 5/6; Jon. (N.S.W. a

Herbert Wilson Pty. Ltd.

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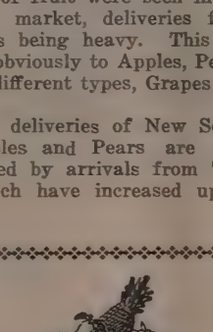

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PLEASE TAKE NOTE—If you are not one of the fortunate ones, consign your fruit to
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Reliability is Our Motto.
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Highest Prices. **A. S. BARR** Prompt Returns.
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Wholesale Fruit Merchant and Growers' Agent.
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s.) 6/- to 8/-, 5/- to 8/-, 4/- to -; King David (N.S.W.) 4/- to 5/6, - to 6/-, 3/- to 4/-; London P. I.S.W. and Tas.) 5/- to 6/-, 4/- to 6, 3/- to 5/-; Prince Alfred (Tas.) - to 4/6, 4/- to 4/6, —, —, —; Worster (Tas.) 3/6 to 5/-, 3/6 to 5/-, -; Extra Fancy higher; Domestic rade 1/- to 2/- lower.

ears:

The Williams variety dominated e position from the end of Febru- y until the middle of March, about hich time other varieties were mar- eted in commercial quantities. Gan- el's Bergamot came from Tasmania the beginning of March and steadily ncreasing quantities of Beurre Bosc, owell and later Beurre d'Cap. came n the market. Packham's Triumph ere placed in cool-store until the ird week in March, when many buy- rs showed a preference for this ariety over the William.

A few Winter Cole came from Vic- oria late in the month, and the first onsignment from Tasmania then lso appeared. Victorian Williams re still available, but latterly some vastage has occurred, due to over- ripeness. A few cases of Williams ave latterly appeared from Tas- nania, but New South Wales arri- als comprise the chief supply. Prices:—For Fancy and Good grades. Quoting in three groups (1) 2¾ in., ; in. and over, (2) 2½ in. and 2⅝ in. nd (3) 2⅜ in. and 2¼ in.:—B. Bosc (N.S.W. and Tas.) 5/- to 7/-, 5/- to 3/-, 4/- to 5/-; B. d'Cap. N.S.W. and Tas.) —, —, —; 5/- to 6/-, 4/6 to 5/6; Gansel's Bergamot (Tas. and N.S.W.) 5/- to 6/-, 5/- to 6/-, 4/- to 5/-; Howell (N.S.W.) 4/- to 6/-, 4/- to 6/-, —, —, —; Packham's T. (N.S.W.) 8/6 to 10/-, 7/- to 9/-, —, —, —; Williams (Vic. 4/- to 6/-; Tas. 3/- to 5/-), N.S.W. 6/- to 7/-, few 8/-, 5/- to 6/6, 4/6 to 5/-; Winter Cole (Vic. and Tas.) 7/- to 8/6, 7/- to 8/-, 5/- to 6/6; Extra Fancy higher, Domestic grade 1/- to 2/- lower.

Bananas:

Heavy rains on the North Coast reduced supplies of this fruit about March 17, and prices advanced sharply, the figure being maintained until the time of going to Press. Arrivals for the four weeks under consideration averaged 12,625 tropical cases, the total being 50,501 cases. Prices:—According to the Banana Marketing Board of New South Wales—N.S.W. and Queensland: Regulation graded, first quality fruit, six, seven, eight and nine inch fruit, 17/- to 22/- per tropical case. Specially selected country order fruit higher. Fiji: 14/- to 22/- per tropical case.

Citrus Fruits:

Grapefruit.—Practically no N.S.W. Grapefruit has been available, but there have been several shipments from Palestine and the U.S.A.; the Palestine fruit arriving in cases approximately 1⅛ bushels in size, and being of good quality. These travelled as deck cargo and only displayed a small amount of shrinkage. Prices:—Q'land, 14/- to 17/- per bushel; Palestine, 35/- per 1⅛ bushel (approx.).

Lemons.—As the month progressed Lemons appeared from metropolitan and coastal sources in larger quantities than is usual at this time of the year. Most of this fruit was skin-marked, and varied considerably in pack and appearance. Prices:—N.S.W. Special and Standard. Partly colored and colored: Counts 88 to 96, 6/- to 8/-; counts 113 to 150, 9/- to 12/-; counts 163 to 252, 11/- to 14/-; smaller, 7/- to 9/- per bushel. Plain grade, 3/- to 7/-, green, 8/- to 12/-; inland, 9/- to 14/- per bushel. Q'land, 14/- to 17/-; South Australia and Victoria, 10/- to 15/- per bushel.

Oranges:

Valencias.—Early in February large sizes from the M.I.A. were a problem, counts 64 to 96 selling at from 6/6 to 8/- in most instances. Just recently this over-supply of large fruit has not been so noticeable and values of counts 113 to 163 firmed, the choicest fruit selling to 14/-. A proportion of the fruit has been coarse in the skin, but latterly smaller fruit has been of very good quality, for so late in the season. Prices:—N.S.W. Standard Grade. Counts 64 to 88, 6/6 to 8/-; counts 96 to 113, 8/- to 10/-; counts 125 to 198, 10/- to 12/-; special inland, to 13/-; counts 216 to 270, 8/- to 10/- per bushel. Plain grade, 7/- to 10/- per bushel.

Washington Navels.—A consignment of these arrived from the United States of America at the end of March and were available at 40/ per Californian case.

Grapes:

Grapes have been one of the most important crops during March, the fruit this year being of better keeping quality than is usual. The early metropolitan fruit is now mostly finished, Black Hamburg being completed at the middle of March and only a few Black Muscats now appearing. Sherry from metropolitan sources have been rather small and frequently marked, due to wet weather conditions.

Purple Cornichon from the M.I.A. appeared at the beginning of March, but were not wanted, while metropoltan Black Muscat were plentiful. They, however, sold more freely later in the month, although not achieving very high prices. Young and Molong commenced to forward at the beginning of March and Orange followed about the middle of the month.

(Continued on page 35.)

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Market Notes and Prices

(Continued)

VICTORIA.

Market Report for March.

THE Wholesale Markets in Melbourne experienced quiet business in March, between-seasons having an effect, supplemented by more or less unsettled weather right through. Stone fruits were finishing and the severe storms in Queensland affected supplies of both Pineapples and Bananas.

Citrus.—There was a shortage of Valencias early in the month, but this righted itself and again the demand dropped towards the end of the month. Lemons were light supplied, and good samples were particularly hard to get.

Grapes maintained supplies in the main varieties, chiefly Muscats and Walthams, for which there was a fair sale. This eased again in the last ten days, and at report the demand had steadied.

Peaches.—Though mostly finished, Pullar Clings held their demand. A few cool-stored Plums were available.

Pears.—Williams fresh petered out, but supplies of cool-stored fruit came in. With other varieties being exported there were only small supplies on the market.

Apples were very cheap right through. Supplies were firm and Jonathans and cookers brought low prices.

Pineapples.—A fair supply suffered a temporary check from storm conditions in Queensland for about a week in the middle of the month, but supplies became normal towards the end. Fruit was badly affected with water blister.

Bananas.—Similar report. Prices rose accordingly, but dropped to normal in the last week.

Passion Fruit.—The period opened up with fair supplies and demand, but slackened off in the second week. The quality was good and prices were normal.

Melons.—A fair quantity of Cantaloupes, Water Melons, Califoria Cremes and Honey Dew was reported. Sold well to a satisfactory demand.

Celery.—Local supplies held in first half and S.A. shipments began to appear towards the end. The demand, however, fluctuated.

Lettuce.—Curiously enough the demand fluctuated. Very cheap prices in the first half, after which prices rose, but dropped towards the end of the month. Easter helped sales somewhat.

Tomatoes.—Metropolitan supplies petered out with Portland supplies firming to satisfactory prices. The quality was particularly good in all varieties.

Melbourne (3/4/37). — Quotations are per bushel case, excepting where otherwise stated. Apples, eating, 3/- to 5/6, few higher; Apples, cooking, 2/- to 4/-. Figs, 4/- to 7/- half-case. Grapes, 5/- to 10/-, few specials to 12/-, few higher. Oranges: Vals., average standards, 5/- to 10/-, according to counts; good standards to 12/-; selected, including M.I.A. standards, to 13/- and 14/-; specially selected to 15/- and 16/-, few higher. Lemons: Average standards, 8/- to 10/-, good standards to 12/-; specially selected, to 14/-; few specials higher. Grapefruit, Q'land, Marsh's seedless, 16/- to 18/-, few to 20/-. Peaches, 3/- to 7/-, few higher. Pears, dessert, 3/- to 6/-, Pears, culinary, 2/- to 4/-. Plums, 3/- to 5/-, few higher. Quinces, 2/- to 4/-. Bananas: Queensland, 6's 12/- to 13/-, 7's 14/- to 15/-, 8's and 9's 16/- to 17/- double-case; few specials higher. Pineapples, Q'land, 8/- to 10/- double-case, few specials higher. Passionfruit, 4/- to 8/- half case. Tomatoes, 2/6 to 5/-, few special higher. Celery (Adelaide), 8/- to 10/- double-case. Cantaloupes, 4/- to 8/-.

The Melbourne market manager of the Federal Citrus Council of Australia reports sales as follow:—Val., average standards, 75-96, 5/- to 7/-, 112-140 7/- to 8/-, 154-182 8/- to 9/-, few 10/-; good standards, 6/- to 10/-, few 11/-; selected, including good M.I.A. standards, 7/- to 13/-, few 14/- and 15/-; specially selected, 8/6 to 16/-, few 1/- to 2/- higher. Grapefruit, Q'land, Marsh's seedless, good standards, 16/- to 18/-, few higher; Calif., to 45/- an export box. Lemons, average standards, 9/-, best counts, few 10/-; good standards, to 11/-, few 12/-; specially selected, 203-248, 14/- and 15/-; 184-270, 13/- and 14/-; 160-300, 12/- and 13/-, few higher; green and part colored lower.

WESTERN AUSTRALIA.

Perth (29/3/37).—Apples, colored, dumps 3/- to 9/-; cookers, dumps 3/- to 5/6. Oranges, Vals., flats, 3/6 to 14/3. Lemons, 10/- to 12/-. Tomatoes, 13/- to 17/3 (inferior from 3/6). Grapes, Black Wortley Hall, 4/- to 5/6; White Muscatel, 5/- to 6/-; Purple Cornichon, 2/6 to 3/-; Malaga, 3/- to 4/-. Passionfruit, half dumps, 6/9 to 9/-. Pears, Bartlett, flats 7/6 to 9/-; Capiaumont, 6/- to 8/-. Quinces, 5/6 to 6/-.

SOUTH AUSTRALIA.

Adelaide (2/4/37).—Apples (eating), 5/- to 6/- case; do. (cooking), 3/- to 4/-. Bananas (Q'ld.), 28/- to 30/- crate. Grapes (dark), 8/- case; Grapes (white), 8/-. Lemons, 8/- to 9/-. Oranges (common), 10/- to 15/-. Passionfruit, 14/-. Peaches, 5/- to 8/-. Pears (eating), 6/-; do. (cooking), 4/-. Pineapples, 21/-. Plums (light), 3/-; do. (dark), 3/-. Quinces, 2/6 to 3/- case.

QUEENSLAND.

Brisbane (18/3/37).—Messrs. Robsons Pty. Ltd. report as follows:—**Apples:** Jons. and Del. selling freely at 8/6, G.S. 8/- and 9/-, other cookers 5/- to 7/-. **Oranges:** 14/- to 16/-. **Lemons:** Gayndah 13/- to 15/-, Vic. 10/- and 11/-. **Pears:** Williams 8/- and 9/-, G.B. 8/-, Caps 6/- to 8/-. **Plums:** Presidents and Ponds 5/- and 6/-. **Grapes:** Muscats 5/- to 7/-, Black Prince and Colemans 3/- to 5/-, Waltham Cross 6/- and 7/-. **Quinces:** 4/- to 7/- C/s. **Pineapples:** Smooth leaf 6/- to 8/- C/s. **Papaws:** 9/- to 12/- trop. case. **Passionfruit:** 7/- to 9/-. **Bananas:** 6's to 12/-, 7's to 13/6, 8's to 15/-.

Produce.—Pumpkins, £10 to £12 per ton; Potatoes £6 to £8 per ton, and Swede Turnips Southern to £8.

Brisbane (22/3/37).—Messrs. Clark & Jesser report as follows:—During the past fortnight very heavy supplies of Apples and Pears have come forward and as the supply had been in excess of the demand, values have declined considerably. The weather has also been very wet and unsettled, this also has been a factor in causing an accumulation of stocks on the market.

The ruling values at present are:—Apples: Jon., 2½ and 2¾ 7/- to 7/6, 2¼ and 2¾ 5/- to 6/-; Del. 7/6 to 8/-, King David 6/- to 7/-, Alfr. 6/- to 7/-, G.S. 8/- to 8/6. Pears: W.B.C. 5/- to 6/-, Packhams 6/- to 6/6, Howells 5/- to 6/-, Gansells 6/- to 7/-, Caps 4/- to 5/-. Oranges, 13/- to 15/-. Grapes: Muscats 6/- to 7/-, Colemans 4/- to 5/-, Waltham Cross 6/- to 7/-, Purple Cornichon and Malaga 7/- to 8/-. Plums, President 4/6 to 6/-. Lemons, 12/- to 14/-. Bananas short supply, 13/- to 15/- case. Pineapples: Rough 9/- to 10/- case; smooths 5/- to 6/- case. Tomatoes, 4/- to 6/-.

NEW ZEALAND.

Dunedin (25/3/37). — Messrs. Reillys Central Produce Mart Ltd. report as follows:—

As is always the case prior to the Easter holidays, the week has been a particularly busy one, with heavy supplies of all lines of fruit and produce coming to hand. Supplies, however, have been rather in excess of requirements, with a general easing in prices.

Heavy supplies of Apples have been received, the principal varieties coming to hand being Coxes Orange, Jon and Del. Pears have also been in better supply, with some very fine lines of Winter Coles and other dessert varieties arriving.

In stone fruit, fair supplies of Peaches and Nectarines, with small consignments of Plums have been coming to hand.

Values for Tomatoes are slightly lower, and better supplies have been received. Considerable quantities of Strawberries have been arriving. Quinces have a fair enquiry, and Passion Fruit is in over supply. A small shipment of Pineapples was received during the week. Increased consignments of Grapes are to hand. Oranges are very short of the demand, Californian transhipments ex the "Mariposa" having to be railed from Auckland, making the price very high. Ripe Bananas are selling well.

Prices (Per Case).—Oranges: Ca Navels, 52/6; Cal. Lemons, 68/6; Grapefruit, 47/6. Bananas, ripe, 23/- Pines, 18/6. Pears, Conference 7/- t 8/-, Beurre Diel 6/- to 7/-, Beurr Clairgeau 6/-, Beurre Bosc 6/- to 7/6 cooking Pears 4/-. Apples, Coxes 8/- to 11/-, Worcesters 4/- to 6/-. Del. 6/- to 7/6, Jons. 5/6 to 7/6; cookers 4/- to 6/6. N.Z. Lemons 16/- to 18/-. **Per Half Case:**—Conference Pears 4/- to 5/-; Freestone Peaches 3/- to 4/6; Nectarines 3/- to 6/-; Dessert Plums 3/- to 5/6; Cucumbers 4/6; Passionfruit 4/- to 6/-.

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Correspondence is invited by the Association.

FIRMS IN THE FRUIT TRADE

NEW SOUTH WALES.

James Slater.

MR. ALFRED SLATER, who has charge of the old-established business of James Slater, has been in command since the death of his father, the late James Slater, who died in 1914. He has been a prominent figure in all matters relating to the trade, and has held many prominent positions in this regard. The firm, which was established in 1882 in the old George-street Fruit Market, has clients in all States who supply them with fresh fruits for the New South Wales trade.

The firm of James Slater has always rendered satisfactory service to growers. They gained prominence through the handling of berries and tropical fruits such as Bananas, Pineapples, Papaws and Custard Apples. This firm specialising in a town trade, is in a favorable position to place these lines to advantage. Cheques are forwarded weekly, and all goods are sold under the personal supervision of Mr. Alfred Slater, who can

Mr. Alfred Slater.

be depended upon to obtain the ruling rates at the time of sale. Growers can with confidence consign their fruit to this reliable agent for disposal at the Sydney Markets.

Fruit Prices in the Sydney Market. (Continued from p. 33)

Improved values resulted for this fruit, like most others, about the 17th and 18th of the month, due to rain in the producing districts preventing picking and packing. Black Muscat went to 10/- and 11/-, and it is probable that competition between vendors to maintain high values when supplies were resumed was partly responsible for the surplus of Grapes on the Thursday prior to the Easter holidays. Had the prices of Muscats during the week prior to Easter been mutually arranged at 5/- to 7/-, and other types at 4/- to 5/-, it is probable that stocks would have been cleared satisfactorily. The present competitive system, however, deters agents from risking lowering their prices. Supplies of Black Muscat from Orange and Molong are likely to continue and also Purple Cornichon from the M.I.A. Prices:—N.S.W. Local: Sherry, 2/- to 3/- per half bushel. Inland: Purple Cornichon, 2/6 to 5/-, few 6/-; Black Muscat, 4/6 to 6/-, few 7/-; Gordo, 2/6 to 5/-; Waltham Cross, 2/6 to 5/- per half case. Inferior in all types lower.

Plums:

The over supply of Plums from the Orange district that was so noticeable late in February gradually corrected itself and latterly President has been the chief variety available. Prices:—N.S.W.: Most sales 1/6 to 3/; special to 4/- per half case.

Peaches:

The chief supply has been from the Irrigation Area, which has forwarded chiefly fruit unsuited for canning purposes.

Victorian supplies have continued available, prices varying according to the keeping quality of the fruit. Freently Victorian fruit has been sold at 2/- to 3/- bushel, the purchase being by barrow-men who would dispose of the product at a quick rate. Prices:—N.S.W.: M.I.A., 2/- to 4/6; other inland, to 5/- half case; 4/- to 7/-; inferior lower per bushel. Victoria, 3/- to 8/- bush. case.

Passion Fruit:

The collapse of this market which occurred late in February was the commencement of a period of low values. At the beginning of March the range was 6/- to 12/- for N.S.W. fruit, while Queensland realised 3/- to 6/-, but since then have steadily receded. Processors have removed large quantities of fruit from the market, but during the last week, choice fruit was offered at 6/- without being cleared. Prices:—N.S.W., 4/- to 5/-, few higher per half case.

Pineapples:

Arrivals from Queensland for the month totalled 12,196 tropical cases, an average of just over 3,000 cases per week. Values prior to rain on the North Coast were around 7/- to 11/- per tropical case, but improved to 15/- and higher, while supplies were light. Upon the resumption of supplies it was found that much fruit was water saturated and water blister caused some breakdown. Buyers, in consequence, had to be induced to purchase by a reduction in price and country order people were reluctant to purchase for long distance travelling. The market was bare of fruit on the day prior to Good Friday, but 2,000 cases were expected late on that day. Unless the quality of the fruit has improved considerably it is anticipated that much of this fruit will be unsaleable by the Tuesday after Easter. Prices:—Q'land, 8/- to 12/-, few higher per tropical case.

Tomatoes:

Almost every known Tomato-growing district has forwarded throughout the month, but during the last week in February prices commenced to recede. A low level was quickly reached, and very little improvement has since occurred. At all times ripe and overripe fruit has been dragging in the market, the position only being relieved by sauce manufactureres purchasing at 1/6 per half bushel.

Goulburn Valley (in Victoria) supplies finished due to it being the end of their season, but small quantities of Portland Tomatoes have continued. Some good fruit has appeared from Lavington and the M.I.A., and it is reported that the plantings at Kulnura and Mangrove Mountain, in the Gosford district, are the heaviest on record. The Bathurst district and Orange have also forwarded a few, but very little encouragement has been received to continue forwarding. Early frosts in some inland districts may occur at any time, and supplies will then probably ease, it will be then that districts free of frosts will achieve better values. During the last two weeks Tasmania has forwarded small consignments, but is unlikely to continue while market values are low. Prices:—**N.S.W.**, 2/- to 5/-, few higher per half case; ripe, from 1/-. **Victoria**, Portland, 8/- to 10/- per bushel. **Tasmania**, 2/- to 4/- per half case. **Repacked**, 4/- to 5/6 per half bushel.

Note.—The present values quoted for Grapes, Plums, Peaches, Persimmons, Passion fruit and Quinces are those of the Thursday prior to Easter, when the market was in an extremely depressed condition, due to an oversupply of perishable fruits.

JUNIOR APPLE PACKING

Pleasing Function at S. Ravenswood School.

A pleasing function was held at the S. Ravenswood State School on February 27, in the presentation of the shield and trophies won by the S. Ravenswood School at the 1936 Apple packing competitions.

There were present Mr. E. E. Pescott (Dept. of Agriculture), Mr. Harris (Packing Instructor), Mr. Tomlinson (Fruit Inspector), Mr. R. E. Downie (Gerrard Wire Tying Machines Co. Pty. Ltd., donors of the shield), Mr. Anchen (District Inspector), Mr. J. H. Lang (Harcourt), Mr. McFarlane (Harcourt North), parents and members of the Committee. Mr. J. Comini, President of Committee was in the chair.

The chairman welcomed the visitors and introduced Mr. Pescott to the meeting.

Mr. Pescott congratulated the team on their success in winning the shield for the second year in succession.

The shield, cup and certificate won were presented to three of the winning team, R. Winch, H. Jenkin and G. Leversha; these were then presented by the above boys to L. Comini, Thelma Jenkin and Wilfred Jenkin, who will be members of this year's team, with the hope that the new team would maintain the success this year.

Apart from the team's win, other individual trophies were won and presented to the following:—

Bendigo Show — Coral Comini, 1st prize (jewel case); Robert Winch, 2nd prize (ink stand).

Royal Show—George Leversha, certificate.

The prize winners duly responded.

Mr. Anchen, District Inspector, spoke of the co-operation between the Agricultural and Education Departments.

Mr. Pescott thanked Mr. Anchen for his support.

Visit to Plantation.

The visitors then inspected the plantation comprising of 18 trees, and Mr. Pescott gave a short lecture on treatment to be afforded to certain trees.

Afternoon tea was supplied by the ladies, Mr. McFarlane and Mr. Lang thanking them for the same.

Lectures were then delivered by two of the pupils on certain work — Wilfred Jenkin, "Fruit Tree Surgery"; Coral Comini, "Budding." Both used diagrams and illustrated their lectures by practical work.

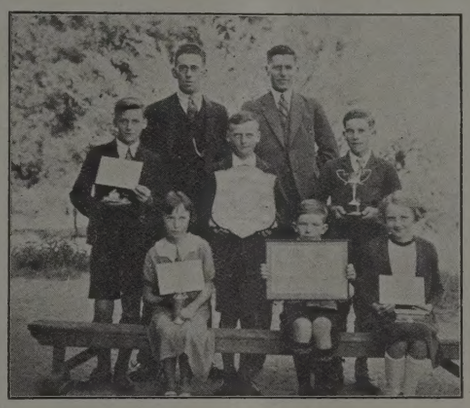
Mr. Downie congratulated both on their work.

Wilfred Jenkin, on behalf of the children, presented Mr. Harris and Mr. Tomlinson with small tokens of their regard for the help given during the year—Mr. Harris and Mr. Tomlinson both responding.

The chairman thanked all those who had assisted that day and during the year, making special mention of the generous help of Mr. Winch and Mr. Laversha, who had provided the Apples for the Royal and Bendigo shows.

Mr. Downie took photos. of the team and the whole school.

The winning team, 1935:—Robert Winch, George Leversha, Harold Jenkin (also members of 1935 winning team), Daphne Nielsen, Coral Comini, Wilfred Jenkin (first year in competition).



The Apple Packing prize winning team at the S. Ravenswood (Vic.) State School.

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[The foregoing report was prepared by R. G. Burton.

Mr. Pescott states this was one of the happiest functions of this character he has ever attended. He was delighted with the well-chosen words in the responses by the school children after the presentation of the prizes, and with the illustrated lectures delivered by Wilfred Jenkin and Coral Comini on practical orchard work.

Mr. R. E. Downie also expresses appreciation. He states that the success is the more noteworthy because of the small number of children attending the school—the full number on the roll being 14—some of whom are tiny tots.

In addition to the work of the packing class, Mr. Burton and the School Committee have established a splendid little "type" orchard, and special lectures in horticultural practice are delivered at intervals by Mr. Tomlinson, district horticultural inspector.—Ed. "F.W. & M.G."]

PASSION FRUIT ON NORFOLK ISLAND.

Passion fruit grows exceedingly well on Norfolk Island. A factory for extracting and processing the pulp was recently installed on Norfolk Island by Mr. G. Flack, of the Manly Vale Products Co., Sydney. Regular shipments of canned Passionfruit are now going forward to Sydney. There is every prospect of a substantial trade developing as the residents on N.I. can grow Passionfruit.

Bobbie's Knowledge.

Little Robert's father was questioning him on some of the lessons he was learning at school. Over one answer he hestitated longer than usual. His father said: "Well, Robert don't you know it?"

He answered: "Yes, dad, I know it, but it sticks on the end of my tongue, and I can't say it."

Little Karl, who was on daddy's knee, said: "Stick out your tongue and let us see it."

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Improvement in Fruit Shipping

SUCCESSFUL EXPERIMENTS WITH SOLID STACKING, WITHOUT DUNNAGE IN AIR CIRCULATION CHAMBERS ON SHIPS.

Commercial Tests This Season.

IN ORDER TO INVESTIGATE methods of improved stowage of fruit in ships' holds, three British scientists are now in Australia. These are Dr. A. J. Smith and Mr. H. J. Shepherd, of the Cambridge Low Temperature Station, and Mr. G. Mann, of the Ditton Laboratory.

Experiments at Ditton have shown that more even distribution of air is possible in certain air circulation chambers if the fruit be stacked in solid blocks, practically doing away with dunnage. It is now the intention to carry out a demonstration on the M.V. "Port Jackson," in mid-April. A chamber of some 30,000 cases will be loaded at Hobart and arrangements are being made for other chambers at Melbourne.

The details were taken in hand with the Council for Scientific Research and the Australian Apple and Pear Export Council,

This solid stacking system has been operating successfully in the export of fruit from S. Africa, while the N.Z. Fruit Export Control Board is arranging for demonstrations of the system on a commercial scale this season.

It is to be noted that the solid stacking system is not applicable to chambers with the grid system of refrigeration.

Shipping companies are facilitating the experiments in every way possible. Should these prove successful the benefits will be in the increased carrying capacity of holds, the saving of the expense of the dunnage, and the placing of the dunnage, and —because of more even temperature throughout the hold — a better outturn of the fruit.

How to Make a Concrete Trough

V. R. Dodd, Brimpton Lake, S.A.

A TROUGH IS A NECESSITY on a farm, especially where the water supply is from wells or tanks, and it should be well made. There is only one way of making a good job, and that is by using reinforced concrete.

By placing the trough on a line with a fence it can be made to water two or more paddocks. A useful-sized trough could be made 12 ft. x 4 ft., and to hold water 1 ft. deep. By placing a rail around the top 2 ft. from the top of the wall the trough can be used to water horses, cattle and sheep as well, as the sheep can put their heads through under the rail to drink.

First obtain cement, sand, and crushed stone or stone rubble similar to ironstone rubble, but with the earth sifted out.

It is important that the sand should be clean; if dirt is present it will spoil the job. The quantity of material depends on the size of the job.

Concrete has to be built in a mould. Obtain 2 planks 13 ft. x 15 in., and two 5 ft. x 15 in.; also 2 planks 12 ft. x 12 in., and 2 planks 4 ft. x 12 in. Then dig out the earth where the trough is to be built, 3 in. deep and 15 ft. 6 in. x 5 ft. 6 in. to put in the foundation. It is a good plan to put down 6 planks about 8 ft. x 1 ft. on the ground, on which to mix the concrete, as it keeps the material clean and it is easier to mix concrete on a foundation.

Concrete should be mixed in the proportion of 1 part cement, 2 sand, 3 crushed stone, and it should not be so wet as to run out of the mould.

Fill in the foundation with concrete to a depth of 3 in.; then put the outside mould together, and place it on top of the foundation, so as to leave 3 in. of concrete outside. Then get some ¾ in. mild steel bars and cut them into 6 ft. 2 in. lengths, and bend them U shape, so they reach across the bottom with one end up through each wall; 11 pieces are used, spacing them 1 ft. apart. Then cut 3 pieces 14 ft. 2 in. long, and place them along the bottom. Then stand the rods up; put a length of fencing wire along them, and tie them on with tie wire, that will hold them in place. Then put a few more pieces of wire along the bottom, and put in 3 more inches of concrete to finish the floor. It must be well rammed, and the best thing to use is a rod with a flat end, like a spade.

Have the floor level, and then assemble the inside mould, and place it in position, leaving space for a 6 in. wall, with the steel rods in the centre of the wall. Proceed to fill in the walls with concrete, being sure to ram them down firmly.

At every 3 in. or so put a strand of good fencing wire around on the outside of the steel, and hook the ends together. Fill in until the top of the frame is reached.

Put some bolts in the wall at one end, so that they are higher than the top of the wall. These will serve to fasten a cover for the ball tap. The rail is best made of 1 in. piping. It should be cut in lengths corresponding to the walls and screwed together at the ends with elbows. The rail should be supported 1 ft. from the top of the wall by standards placed in the centre of the walls, and the rail clamped to the top of these. Three standards on each side and 1 at each end should be enough.

After the concrete has set for 12 hours take off the moulds, plaster the trough inside and outside with cement, and cover with wet bags until it has set fairly well. Then put in enough water to cover the bottom, and in 2 or 3 days it will be ready to be filled. When properly set it will be unbreakable.

THE QUITTER.

I weathered the depression
With colors flyin' high,
But I've only one expression
Now, an' that's a sickly sigh.

The bugs et all my cabbage
An' the ants robbed all my bees;
Th' T.B. got my cattle
An' the spiders killed my trees.

Then th' coxy got my chickens
An' th' cholera my hogs
While th' wilt slew my Tomatoes
An' th' rabbits got my dogs.

All this I would have weathered, too,
Although I suffered harm,
But strange t'say I sorta quit
When th' taxes got my farm!

—(Wheeler R. Osborn in "California Cultivator.")

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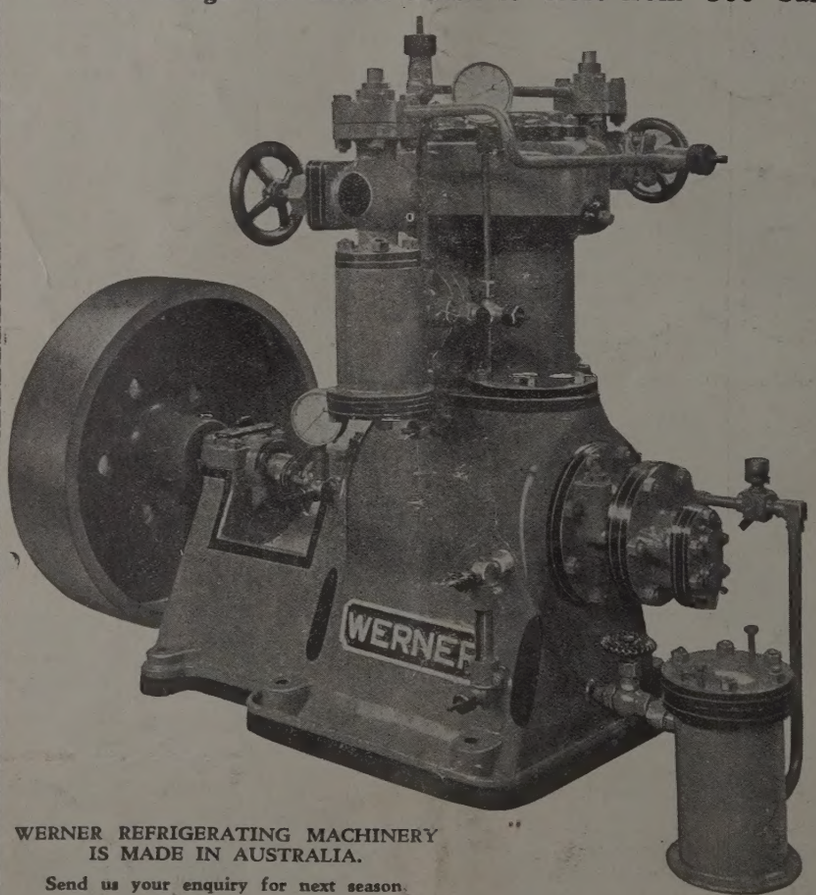

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